

SUICIDE IN SAN DIEGO COUNTY:

1998 - 2007



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**SUICIDE IN SAN DIEGO COUNTY:
1998 - 2007**

CHIP's Message

Dear Reader,

Community Health Improvement Partners (CHIP) is pleased to present its latest 10-year suicide data report, *Suicide in San Diego County: 1998 - 2007*, a project of the CHIP Suicide Prevention Committee.

CHIP is a collaboration of San Diego health care systems, hospitals, community clinics, insurers, physicians, universities, community benefit organizations and the County of San Diego. The partners of CHIP are dedicated to achieving optimal health for San Diego County's communities through collaboration and assessment.

This report draws on the epidemiological support of the County Health and Human Services Agency's Division of Emergency Medical Services (EMS) to provide a picture of suicide in San Diego County from information in the Medical Examiner's Database and other available sources. The Office of the Medical Examiner is charged with investigating and determining the cause of death in all homicides, suicides, motor vehicle fatalities, occupation-related deaths, drug abuse deaths, and certain deaths due to apparent natural causes.

Information about suicide, like that presented in this report, helps us understand and track the suicide problem from both a regional and a state/national perspective as we embark on strategies to reduce it. This information also serves to promote public awareness of the magnitude of the suicide problem and the need for broad-based support for suicide prevention.

CHIP would like to acknowledge the contribution of the Division of Emergency Medical Services staff for their help in the preparation of this report. Special recognition is extended to Alan Smith, Ph.D., M.P.H., EMS Epidemiologist, who co-authored this report. His scholarship and dedication to this endeavor is very much appreciated.

We hope you find this report useful.
Sincerely,

Beth Sise, JD, RN, MSN, CPNP
Co-Chair
CHIP Suicide Prevention Committee

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Table of Contents

CHIP’s Message ii

Introduction..... vii

Section 1: All Ages

 Leading Causes of Non-Natural Death1
 Table 1.1: Leading Causes of Non-Natural Death by Age Group of Victim,
 County of San Diego, 1998 – 2007

 Suicides by Age Group and Year.....2
 Suicide in Children 14 and Under
 Table 1.2: Suicides by Age Group and Year: 1988 – 2007
 Table 1.3: Suicide Rates by Age Group and Year: 1988 - 2007

 Comparison with California and the United States.....3
 Figure 1.1: Age-Adjusted Suicide Rates, San Diego, California, and the U.S.,
 1979 - 2005

 Suicide by Age and Gender4
 Figure 1.2: Suicide Rates by Age and Gender
 Table 1.4: Suicides by Age and Gender

 Race/Ethnicity.....5
 Figure 1.3: Suicide Rates by Race/Ethnicity: 1998 - 2007
 Table 1.5: Suicides by Race/Ethnicity and Gender

 Suicide Methods.....6
 Figure 1.4: Suicide Methods
 Figure 1.5: Suicide Methods by Year, 1988 – 20077
 Table 1.6: Suicide Methods by Year, 1988 – 2007

 Month.....8
 Figure 1.6: Average Number of Suicides per Day, by Month, San Diego County,
 1998 - 2007
 Table 1.7: Suicides by Month and Gender

 Murder-Suicide9
 Figure 1.7: Characteristics of Murder-Suicides, San Diego County, 1988 - 2007

Toxicology by Gender10
 Table 1.8: Toxicology Results by Gender, All Ages, 2000 - 2007
 Figure 1.8: Toxicology Results for Alcohol and Drugs of Abuse by Gender, All Ages, 2004 - 2007

Toxicology by Suicide Method.....11
 Table 1.9: Toxicology results by Suicide Method, All Ages, 2000 - 2007

Geographic Distribution12
 Figure 1.9: Suicide Rate: San Diego County by Health Service Region: All Ages, 1998 – 2007
 Table 1.10: Suicides by San Diego County Health Service Region, 1998 - 2007

Section 2: Adolescents and Young Adults

Comparison with California and the United States.....13
 Figure 2.1: Suicide Rates, Age 15-24 Years, San Diego, California, and the U.S., 1979 - 2005

Youth Risk Behavior Survey14
 Figure 2.2: San Diego Youth Risk Behavior Survey, Percent of Students Who Attempted Suicide in the Previous 12 Months

Annual Rates.....15
 Figure 2.3: Annual Suicide Rates by Gender, Age 15 – 24 Years
 Table 2.1: Annual Suicide Number and Rate, Age 15 – 24 Years

Race/Ethnicity.....16
 Figure 2.4: Suicide Rates by Race/Ethnicity, Age 15 – 24 Years
 Table 2.2: Suicides by Race/Ethnicity and Gender, Age 15 – 24 Years

Suicide Methods.....17
 Figure 2.5: Suicide Methods, Age 15 – 24 Years

Month.....18
 Figure 2.6: Suicides by Month, Age 15 – 24 Years

Toxicology by Gender19
 Table 2.3: Toxicology Results by Gender, Age 15 – 24 Years, 2000 – 2007
 Figure 2.7: Toxicology Results for Alcohol and Drugs of Abuse by Gender, Age 15 – 24 Years, 2004 – 2007

Toxicology by Suicide Method.....20
 Table 2.4: Toxicology Results by Suicide Method, Age 15 – 24 Years, 2000 - 2007

Geographic Distribution21
 Figure 2.8: Suicide Rate, San Diego County by Health Service Region,
 Age 15-24, 1998 – 2007
 Table 2.5: Suicides by San Diego County Health Service Region, Age 15 - 24,
 1998 - 2007

Section 3: Working-Aged Adults

Comparison with California and the United States.....22
 Figure 3.1: Suicide Rates, Age 25-64 Years, San Diego, California, and the U.S.,
 1979 - 2005

Annual Rates.....23
 Figure 3.2: Annual Suicide Rates by Gender, Age 25 – 64 Years
 Table 3.1: Annual Suicide Number and Rate, Age 25 – 64 Years

Race/Ethnicity.....24
 Figure 3.3: Suicide Rates by Race/Ethnicity, Age 25 – 64 Years
 Table 3.2: Suicides by Race/Ethnicity and Gender, Age 25 – 64 Years

Marital Status.....25
 Figure 3.4: Suicide Rates by Marital Status, Age 25 – 64 Years
 Table 3.3: Suicides by Marital Status and Gender, Age 25 – 64 Years

Suicide Methods.....26
 Figure 3.5: Suicide Methods, Age 25 – 64 Years

Month.....27
 Figure 3.6: Suicides by Month, Age 25 – 64 Years

Toxicology by Gender28
 Table 3.4: Toxicology Results by Gender, Age 25 – 64 Years, 2000 - 2007
 Figure 3.7: Toxicology Results for Alcohol and Drugs of Abuse by Gender, Age
 25 – 64 Years, 2004 - 2007

Toxicology by Suicide Method.....29
 Table 3.5: Toxicology Results by Suicide Method, Age 25 – 64 Years,
 2000 - 2007

Geographic Distribution30
 Figure 3.8: Suicide Rate, San Diego County by Health Service Region,
 Age 25 – 64, 1998 – 2007
 Table 3.6: Suicides by San Diego County Health Service Region, Age 25 – 64,
 1998 - 2007

Chapter 4: Older Adults

Comparison with California and the United States.....31
 Figure 4.1: Suicide Rates, Age 65 Years and Older, San Diego, California, and
 the U.S., 1979 - 2005

Annual Rates.....32
 Figure 4.2: Annual Suicide Rates by Gender, Age 65 Years and Older
 Table 4.1: Annual Suicide Number and Rate, Age 65 Years and Older

Race/Ethnicity.....33
 Figure 4.3: Suicide Rates by Race/Ethnicity, Age 65 Years and Older
 Table 4.2: Suicides by Race/Ethnicity and Gender, Age 65 Years and Older

Marital Status.....34
 Figure 4.4: Suicide Rates by Marital Status, Age 65 Years and Older
 Table 4.3: Suicides by Marital Status and Gender, Age 65 Years and Older

Suicide Methods.....35
 Figure 4.5: Suicide Methods, Age 65 Years and Older

Month.....36
 Figure 4.6: Suicides by Month, Age 65 Years and Older

Toxicology by Gender.....37
 Table 4.4: Toxicology Results by Gender, Age 65 Years and Older, 2000 - 2007
 Figure 4.7: Toxicology Results for Alcohol and Drugs of Abuse by Gender, Age
 65 Years and Older, 2004 - 2007

Toxicology by Suicide Method.....38
 Table 4.5: Toxicology Results by Suicide Method, Age 65 Years and Older,
 2000 - 2007

Geographic Distribution.....39
 Figure 4.8: Suicide Rate, San Diego County by Health Service Region, Age 65+,
 1998 – 2007
 Table 4.6: Suicides by San Diego County Health Service Region, Age 65 Years
 and Older, 1998 – 2007

End Note.....40

Suicide Prevention Resources41

Introduction

Suicide now ranks second among causes of non-natural death in San Diego County, only slightly behind motor vehicle crashes, and followed by drug overdoses and falls. From 1998 through 2007, suicide took the lives of 3,248 San Diegans, claiming about one person each day and outnumbering homicides (1,236) by 2.6 to 1.

The devastating impact of suicidal behavior, however, reaches far beyond those who actually take their own life. It is believed that for every suicide, there are six "survivors"- persons who suffer lasting emotional trauma when someone close to them dies as a result of suicide.¹ Moreover, for every one completed suicide, there are an estimated 25 attempted suicides overall; among youth, the ratio of completed to attempted suicides may be as high as 1:100 to 1:200.²

Alarming numbers like these, evident nationwide, resulted in a call by the U.S. Surgeon General for the nation, states, and communities to apply public health methods to address the suicide problem. Among the goals set forth in the *National Strategy for Suicide Prevention*,³ the Surgeon General challenges us to work together to promote awareness that suicide is a major preventable public health problem. This calls for increasing collaboration among public and private entities to use means to raise public awareness of suicide and suicide prevention, including developing public education campaigns and disseminating information through the World Wide Web.

In this report, *Suicide in San Diego County: 1998 - 2007*, the Community Health Improvement Partners' (CHIP) Suicide Prevention Committee takes an important step toward meeting that goal. This report presents data about suicide in the county overall and among three distinct age groups: adolescents and young adults, working-aged adults, and older adults. The information in this report should prove helpful to those in need of basic information and trends on suicide in San Diego County, including community-based agencies, government agencies, businesses, healthcare, media, and private individuals.

Readers will note that this latest report contains some changes from the committee's previous report, *Suicide in San Diego County: 1995 - 2004*. In that report, suicide was found to rank first among causes of non-natural death in San Diego County, exceeding motor vehicle crash deaths. The rank order change of suicide from first place to second place as a cause of death in the latest report is a result of both a 5% increase in motor vehicle deaths and a 2.6% decrease in suicides. While this overall decline is encouraging, 2007 saw the highest suicide rate since 2000. We look forward to more progress as the state, and its many counties, embark on an expansion of mental health programs under Proposition 63 and the implementation of a comprehensive, integrated approach to reducing suicide through the new State Office of Suicide Prevention.

¹ American Association of Suicidology. Available at <http://www.suicidology.org/displaycommon.cfm?an=6>
Accessed 9/24/08

² Suicide in the U.S.A. Based on Current (2004) Statistics. American Association of Suicidology. Available at <http://www.suicidology.org/associations/1045/files/SuicideInTheUS.pdf> Accessed 9/24/08

³ National Strategy for Suicide Prevention: Goals and Objectives for Action. Available at <http://mentalhealth.samhsa.gov/publications/allpubs/SMA01-3517/> Accessed 9/24/08

Section 1: All Ages

Leading Causes of Non-Natural Death

In San Diego County, suicide ranked as the second leading cause of non-natural death for all ages from 1998 – 2007, slightly behind motor vehicle crashes, and followed by drug overdoses and falls.

- Among young people ages 15 to 19, suicide was the third leading cause of non-natural death.
- Among the population ages 20 to 74, suicide was either the first or second leading cause of non-natural death.
- Among older adults ages 75 and up, suicide was the second leading cause of non-natural death.

Table 1.1: Leading Causes of Non-Natural Death by Age Group of Victim, County of San Diego 1998 - 2007					
Age Group of Victim	Rank of Cause of Death				
	1	2	3	4	5
0-4	Drown 59	Homicide 57	Motor Vehicle 44	Asphyxia 29	Drug/Alcohol OD 13
5-9	Motor Vehicle 42	Drown 8	Homicide 8	Burn 3	Asphyxia 2
10-14	Motor Vehicle 51	Suicide 15	Homicide 14	Drown 4	Accident - Unspecified 4
15-19	Motor Vehicle 357	Homicide 168	Suicide 121	Drug/Alcohol OD 39	Drown 26
20-24	Motor Vehicle 497	Suicide 234	Homicide 225	Drug/Alcohol OD 123	Drown 26
25-34	Motor Vehicle 525	Suicide 501	Drug/Alcohol OD 444	Homicide 265	Drown 38
35-44	Drug/Alcohol OD 915	Suicide 644	Motor Vehicle 504	Homicide 213	Fall 66
45-54	Drug/Alcohol OD 1157	Suicide 679	Motor Vehicle 430	Fall 157	Homicide 155
55-64	Suicide 392	Drug/Alcohol OD 369	Motor Vehicle 296	Fall 188	Medical/Therapeutic 57
65-74	Suicide 243	Motor Vehicle 215	Fall 213	Medical/Therapeutic 75	Drug/Alcohol OD 63
75-84	Fall 555	Suicide 276	Motor Vehicle 213	Medical/Therapeutic 69	Asphyxia 47
85+	Fall 651	Suicide 137	Motor Vehicle 126	Asphyxia 30	Medical/Therapeutic 23
Total	Motor Vehicle 3319	Suicide 3248	Drug/Alcohol OD 3158	Fall 1902	Homicide 1236

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner database, 1998 - 2007
 Note: Cases in which the mechanism of death was unknown are excluded.

Section 1: All Ages

Suicides by Age Group and Year

In San Diego County, there were a total of 36 suicides among children 14 years and under from 1988 through 2007, an average of less than two per year. While each suicide is in itself significant, this relatively small number does not lend itself to reliable annual data that can support statistical conclusions.

Table 1.2: Suicides by Age Group and Year: 1988 – 2007																					
Age Groups	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Total
15-19	16	8	13	20	14	11	15	23	18	10	16	10	13	11	13	10	14	5	17	12	269
20-24	25	26	37	17	22	30	31	25	21	27	25	14	28	21	21	29	20	22	30	24	495
25-34	71	75	66	72	60	92	80	61	68	60	59	54	54	49	55	59	49	40	37	45	1206
35-44	60	41	68	82	78	79	69	88	75	68	71	54	77	70	64	67	62	66	46	67	1352
45-54	30	30	36	41	42	46	49	48	56	43	52	65	72	69	68	64	68	78	60	83	1100
55-64	27	27	39	28	33	37	33	33	36	23	35	26	37	36	51	32	37	35	47	56	708
65-74	46	45	41	37	42	32	37	36	32	35	24	26	23	28	15	24	27	26	26	24	626
75-84	35	33	32	33	33	30	32	38	31	36	32	32	28	26	21	31	23	26	28	29	609
85+	16	10	15	20	16	17	11	6	12	11	14	12	14	10	15	11	12	14	20	15	271
Total	328	297	348	353	344	374	365	361	352	314	330	296	347	323	325	328	314	316	313	356	6684

Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner Database, 1988 – 2007
 Note: Total includes those with unknown age and younger than 15 years. Cult-related suicides are excluded.

Table 1.3: Suicide Rates* by Age Group and Year: 1988 – 2007																					
Age Groups	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Total
15-19	9.2	4.5	7.3	11.3	7.7	6.0	8.2	12.5	9.7	5.3	8.4	5.1	6.5	5.3	6.1	4.5	6.2	2.2	7.3	5.2	6.8
20-24	10.7	10.8	14.8	6.8	8.9	12.2	12.7	10.4	8.8	11.3	10.4	5.8	12.1	9.0	8.8	12.0	8.3	9.2	12.6	10.2	10.3
25-34	16.1	16.5	13.3	14.7	12.5	19.3	16.9	13.1	14.7	13.1	12.8	11.7	12.2	10.9	12.0	12.6	10.4	8.6	8.2	10.3	13.0
35-44	17.6	11.4	17.9	21.2	19.6	19.6	17.0	21.5	18.2	16.2	16.6	12.3	16.8	15.3	13.9	14.6	13.3	14.2	10.0	14.5	16.0
45-54	14.0	13.2	16.3	17.3	16.4	17.2	17.9	17.1	19.5	14.5	16.9	20.2	20.4	18.9	18.1	16.5	17.0	19.0	14.3	19.1	17.4
55-64	15.9	15.6	22.2	15.5	17.8	19.8	17.5	17.5	19.0	12.0	17.9	13.0	18.1	17.1	22.7	13.4	14.6	13.1	16.7	18.8	16.8
65-74	31.0	29.7	25.6	22.8	25.9	19.9	23.1	22.6	20.1	21.9	14.9	16.0	14.4	17.5	9.4	15.0	16.8	16.0	15.9	14.3	19.6
75-84	42.3	38.3	39.1	37.4	35.8	31.7	33.2	38.8	31.2	35.3	30.3	29.3	23.9	21.8	17.3	25.2	18.7	20.9	22.5	23.0	28.8
85+	61.7	36.5	65.6	76.2	58.0	59.7	37.7	20.2	39.6	35.2	43.4	35.7	38.5	26.2	37.3	25.9	26.7	28.8	38.5	26.2	38.5
Total	14.1	12.3	13.9	14.0	13.4	14.4	14.0	13.8	13.4	11.8	12.2	10.8	12.3	11.3	11.2	11.1	10.4	10.4	10.2	11.5	12.2

*Rates per 100,000
 Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner Database, 1988 – 2007
 Note: Total includes those with unknown age and younger than 15 years. Cult-related suicides are excluded.

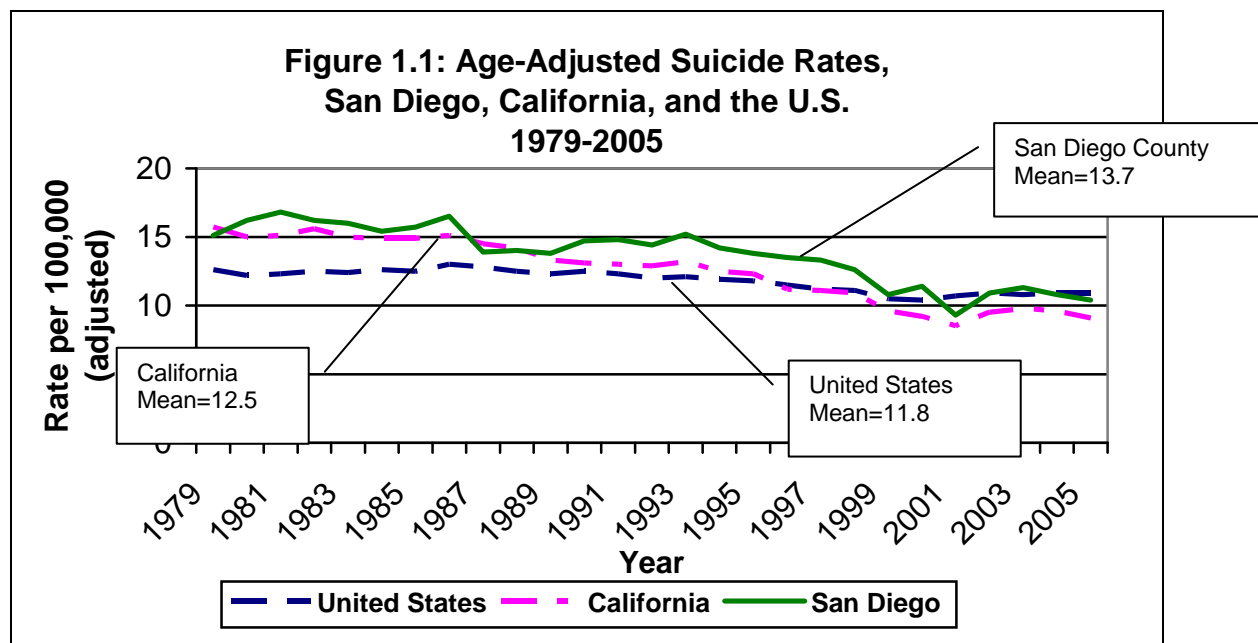
Comparison with California and the United States

According to data from the Centers for Disease Control and Prevention (CDC)¹, the age-adjusted suicide rate² has been consistently higher in San Diego County than in the state of California or the United States overall (see figure 1.1).

In 2005, the most recent national data available, suicide rates per 100,000 population were as follows:

- United States: 10.9
- California: 9.1
- San Diego County: 10.4

The CDC, in its *Healthy People 2010* report³, has set a target of 5.0 suicides per 100,000 population. Clearly, our county, our state, and the nation as a whole must gear up to make a significant impact on the suicide problem.



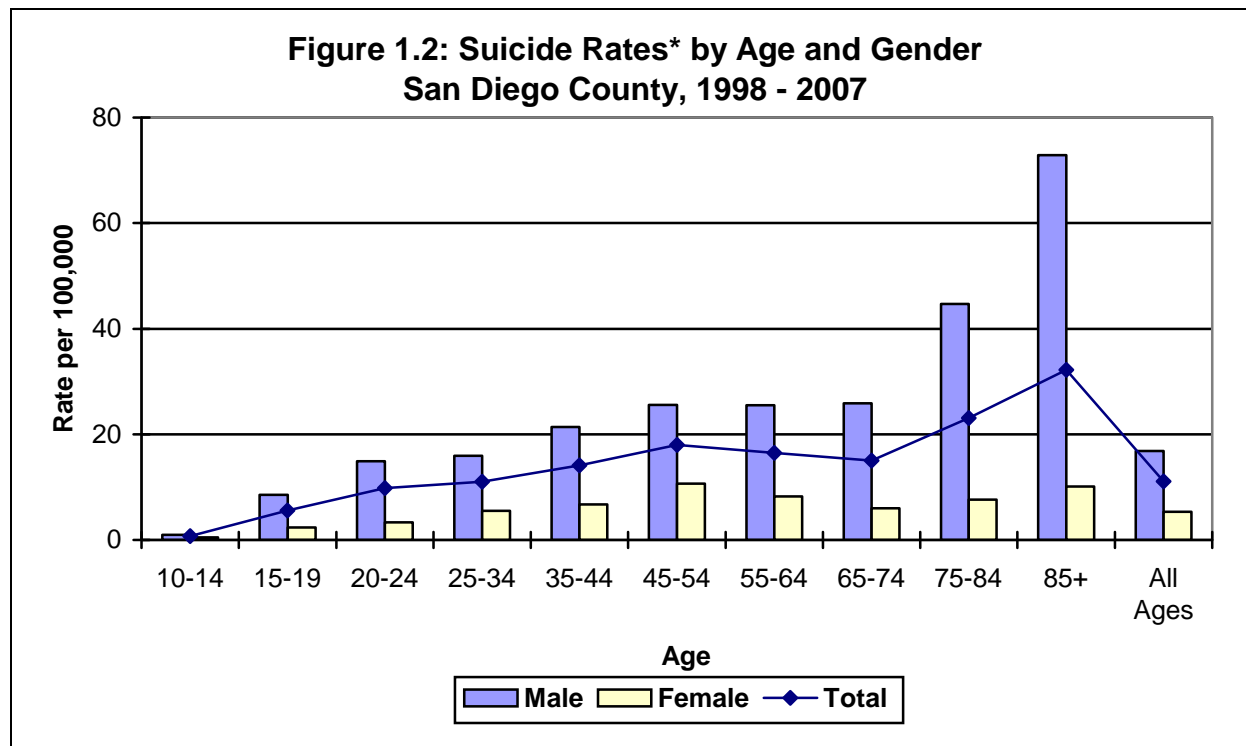
Source: CDC Wonder Compressed Mortality Database, 1979 - 2005

¹ www.cdc.gov

² Age adjustment is performed to compare rates of conditions whose rates vary depending on age for populations with different age distributions. In this case, rates were adjusted to the United States population distribution for the year 2000.

³ U.S. Department of Health and Human Services. *Healthy People 2010: Understanding and Improving Health*. 2nd ed. U.S. Government Printing Office, November 2000.

Suicide by Age and Gender



*Annualized rates per 100,000 population

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 – 2007

The rate of suicide tells us how many suicides there were in proportion to the total population. In San Diego County from 1998 through 2007, the annual suicide rate averaged 11.1 per 100,000 people. The male suicide rate was more than three times higher than the rate among females, and increased dramatically in older age groups. In contrast to males, who were at greatest risk of committing suicide when they reached the oldest age groups, the female suicide rate was highest in the 45 to 54-year age group.

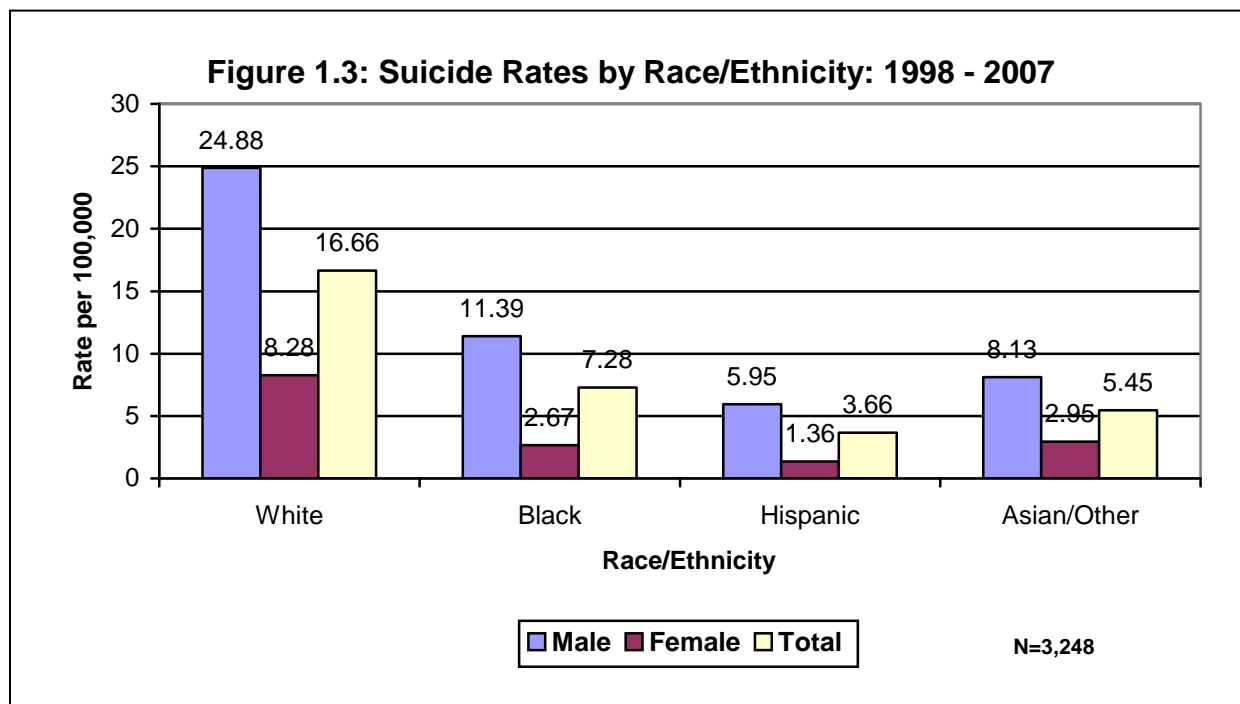
Table 1.4: Suicides by Age and Gender

Age Group	Male		Female		Total	
	Number	Rate [†]	Number	Rate	Number	Rate
10-14	10	0.94	5	0.49	15	0.72
15-19	97	8.56	24	2.36	121	5.63
20-24	199	14.90	35	3.36	234	9.84
25-34	380	15.95	121	5.54	501	10.98
35-44	492	21.36	152	6.74	644	14.13
45-54	474	25.55	205	10.67	679	17.98
55-64	290	25.51	102	8.23	392	16.50
65-74	190	25.88	53	6.00	243	15.03
75-84	223	44.70	53	7.62	276	23.12
85+	109	72.83	28	10.14	137	32.17
Unknown	5	--	1	--	6	--
Total	2469	16.83	779	5.35	3248	11.11

[†]Rate per 100,000

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Race/Ethnicity



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

The suicide rate among Whites was more than two times higher than the rate for the Black population, which had the second highest suicide rate. Both genders were at increased risk in the White population compared with other racial/ethnic groups, and males were substantially more at risk of committing suicide among all groups.

Table 1.5: Suicides by Race/Ethnicity and Gender

Race/Ethnicity	Male		Female		Total	
	Number	Rate [†]	Number	Rate	Number	Rate
White	1969	24.88	643	8.28	2612	16.66
Black	96	11.39	20	2.67	116	7.28
Hispanic	241	5.95	55	1.36	296	3.66
Asian/Other	152	8.13	59	2.95	211	5.45
Unknown	11	**	2	**	13	**
Total	2469	16.83	779	5.35	3248	11.11

[†]Rate per 100,000

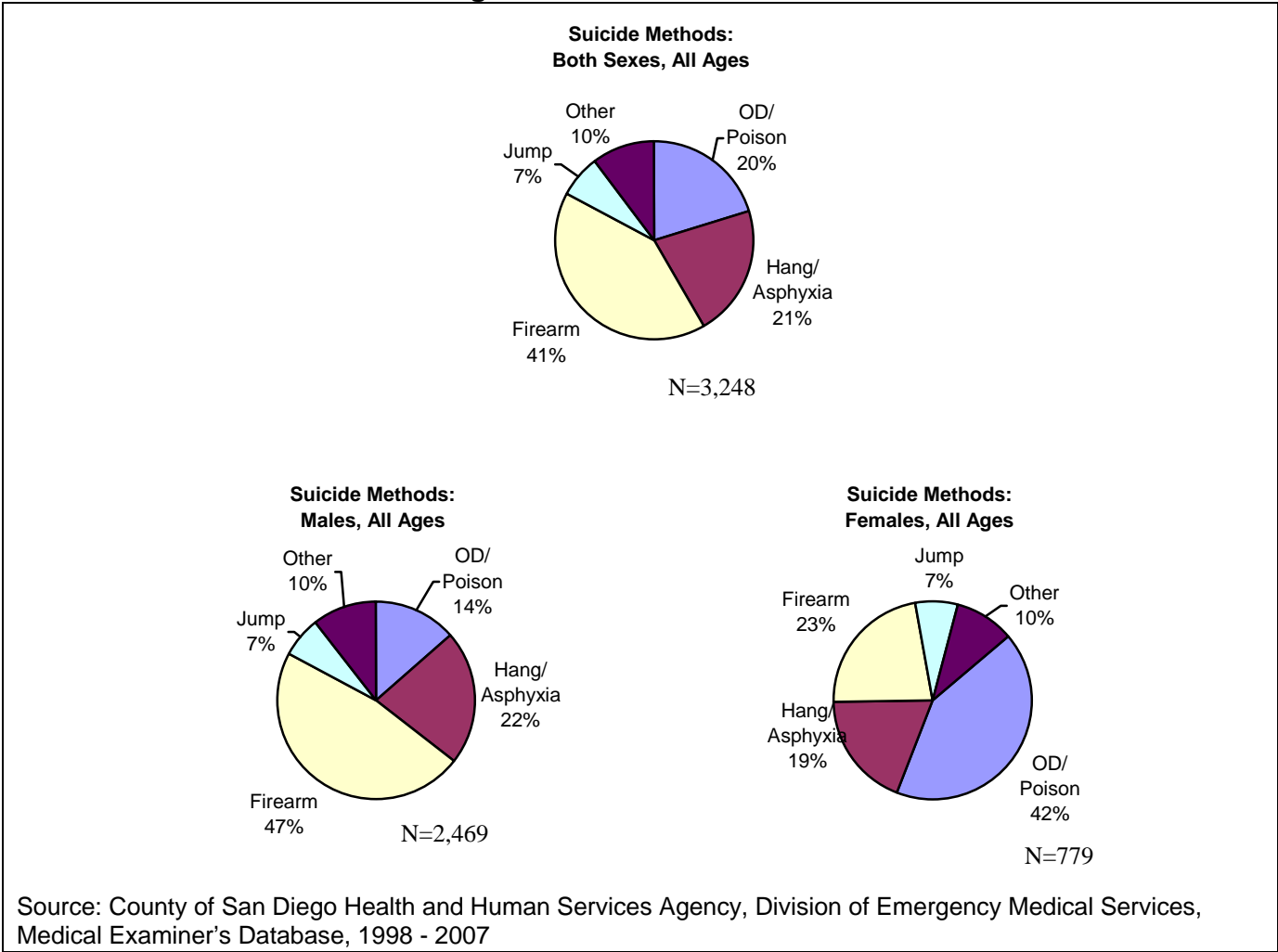
Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 – 2007

Section 1: All Ages

Suicide Methods

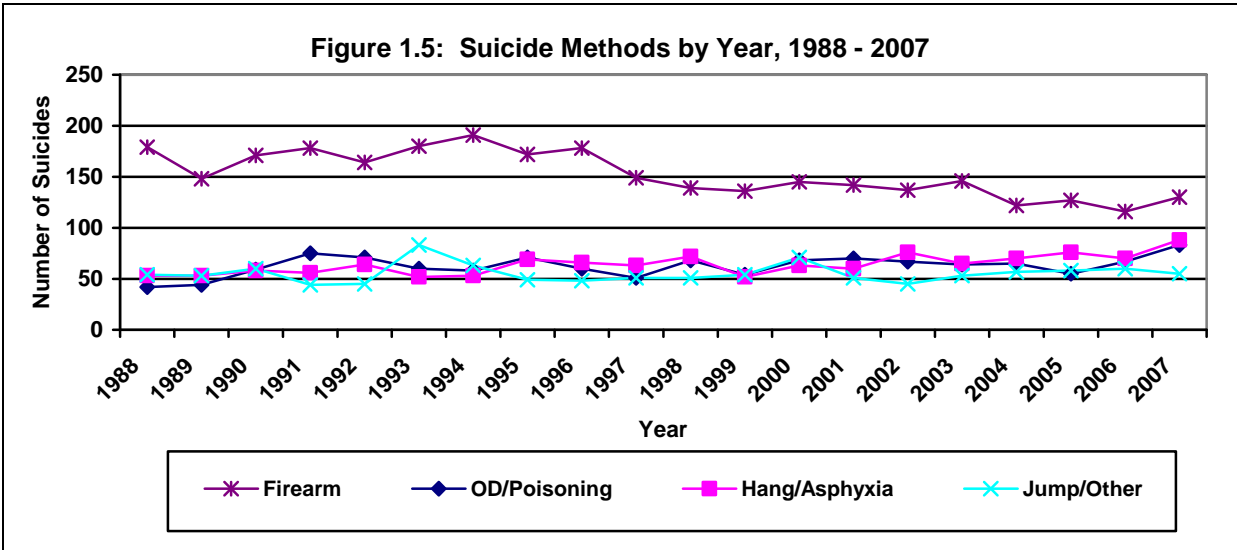
Firearms are still the leading method of completed suicide, accounting for 41% of suicides overall and nearly half of suicides committed by males. Females more often used drugs or poisons to commit suicide (42%).

Figure 1.4: Suicide Methods



Section 1: All Ages

The trend of suicide methods over the last 20 years shows a dramatic decline of 27% in suicides committed using firearms during this time period. Over the same period of time, suicides by hanging/asphyxia have increased by 66% and the number of suicides from OD/poisoning nearly doubled.



Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner’s Database, 1988 - 2007

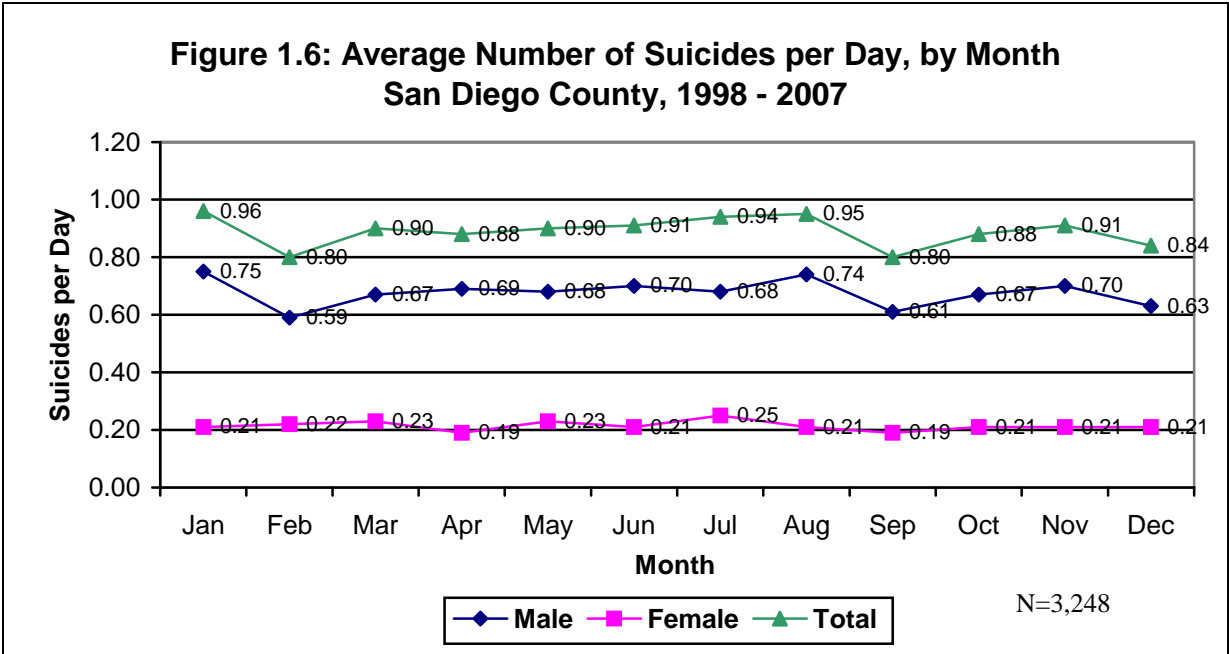
Table 1.6: Suicide Methods by Year, 1988 - 2007

	Firearms		OD/Poisoning		Hang/Asphyxia		Jump/Other	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1988	179	54.57%	42	12.80%	53	16.16%	54	16.46%
1989	148	49.66%	44	14.77%	53	17.79%	53	17.79%
1990	171	49.14%	59	16.95%	58	16.67%	60	17.24%
1991	178	50.42%	75	21.25%	56	15.86%	44	12.46%
1992	164	47.67%	71	20.64%	64	18.60%	45	13.08%
1993	180	48.00%	60	16.00%	52	13.87%	83	22.13%
1994	191	52.33%	58	15.89%	53	14.52%	63	17.26%
1995	172	47.65%	71	19.67%	69	19.11%	49	13.57%
1996	178	50.57%	60	17.05%	66	18.75%	48	13.64%
1997	149	47.45%	51	16.24%	63	20.06%	51	16.24%
1998	139	42.12%	68	20.61%	72	21.82%	51	15.45%
1999	136	45.95%	54	18.24%	52	17.57%	54	18.24%
2000	145	41.79%	68	19.60%	63	18.16%	71	20.46%
2001	142	43.96%	70	21.67%	60	18.58%	51	15.79%
2002	137	42.15%	67	20.62%	76	23.38%	45	13.85%
2003	146	44.51%	64	19.51%	65	19.82%	53	16.16%
2004	122	38.85%	65	20.70%	70	22.29%	57	18.15%
2005	127	40.19%	55	17.41%	76	24.05%	58	18.35%
2006	116	37.06%	67	21.41%	70	22.36%	60	19.17%
2007	130	36.52%	83	23.31%	88	24.72%	55	15.45%
Total	3050	45.62%	1252	18.73%	1279	19.13%	1105	16.53%

Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner’s Database, 1988 - 2007

Section 1: All Ages

Month



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 – 2007

Suicide is commonly thought to vary depending on the time of the year, but the data from San Diego County does not reflect a strong seasonal pattern. Figure 1.6 shows the average number of suicides per day in San Diego County for each month from 1998 through 2007.

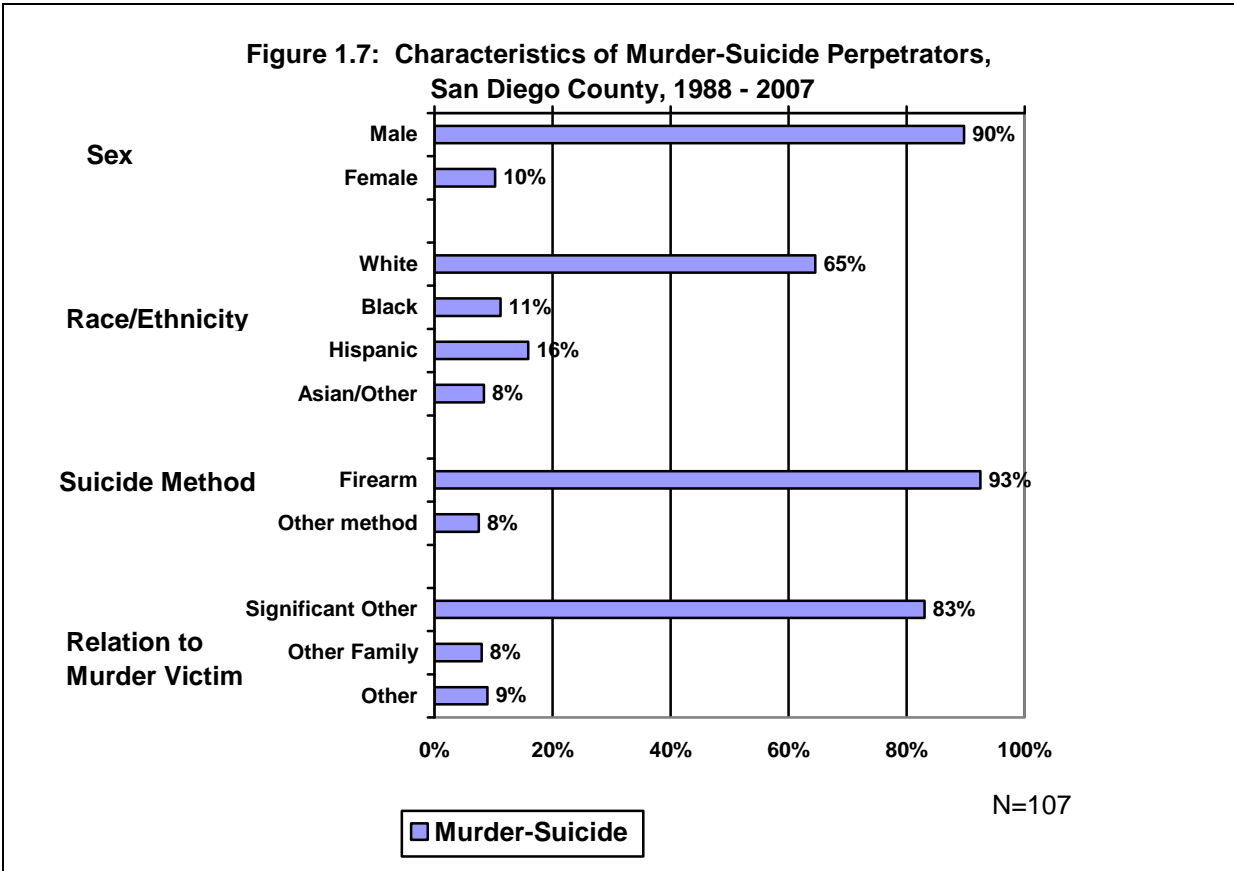
Table 1.7: Suicides by Month and Gender

Month	Male		Female		Total	
	Number	Avg/day	Number	Avg/day	Number	Avg/day
Jan	233	0.75	65	0.21	298	0.96
Feb	166	0.59	61	0.22	227	0.80
Mar	208	0.67	70	0.23	278	0.90
Apr	207	0.69	57	0.19	264	0.88
May	210	0.68	70	0.23	280	0.90
Jun	211	0.70	62	0.21	273	0.91
Jul	212	0.68	78	0.25	290	0.94
Aug	228	0.74	65	0.21	293	0.95
Sep	182	0.61	58	0.19	240	0.80
Oct	208	0.67	64	0.21	272	0.88
Nov	209	0.70	64	0.21	273	0.91
Dec	195	0.63	65	0.21	260	0.84
Total	2469	0.68	779	0.21	3248	0.89

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Murder-Suicide

Murder-Suicides, in which a person takes somebody else’s life before ending their own, made up only 1.6% of all suicides over the past 20 years, but are especially traumatic to the community. In San Diego County from 1988 through 2007, there were 107 incidents of murder-suicide with 125 homicide victims. The demographics of this phenomenon differ from other suicides in that about 90% of the perpetrators are male and 93% of the suicides were carried out using firearms. The majority of homicide victims were significant others, with relationship issues such as recent or impending breakups leading up to the event.



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1988 – 2007

Section 1: All Ages

Toxicology by Gender

The Medical Examiner's Office performed toxicology analyses for drugs of abuse on about 90% of suicides from 2000 through 2007. Cannabinoids, which include marijuana, and benzodiazepines, a commonly abused class of tranquilizer, were added to the drugs of abuse panel in 2004. Of those tested, 30.2% tested positive for alcohol with 20.3% returning blood alcohol levels of 0.08% or higher. Women who died from suicide were much more likely than men to test positive for opiates and benzodiazepines, while men were more likely to test positive for cannabinoids. Antidepressants, for which more selective testing is performed, were also more likely to appear in women (61.5% of women vs. 33.8% of men tested).

Table 1.8: Toxicology Results by Gender, All Ages, 2000 - 2007

Substance	Male				Female				Total			
	Tested		Positive		Tested		Positive		Tested		Positive	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Alcohol \geq 0.08% ¹	1836	92.1%	373	20.3%	577	91.7%	117	20.3%	2413	92.0%	490	20.3%
Alcohol <0.08% ¹	1836	92.1%	194	10.6%	577	91.7%	44	7.6%	2413	92.0%	238	9.9%
Methamphetamine	1746	87.6%	150	8.6%	559	88.9%	41	7.3%	2305	87.9%	191	8.3%
Opiates	1747	87.7%	216	12.4%	565	89.8%	134	23.7%	2312	88.2%	350	15.1%
Cocaine metabolites	1748	87.7%	56	3.2%	562	89.3%	24	4.3%	2310	88.1%	80	3.5%
Cannabinoids ²	884	89.7%	95	10.7%	291	93.0%	15	5.2%	1175	90.5%	110	9.4%
Benzodiazepines ²	884	89.7%	149	16.9%	291	93.0%	88	30.2%	1175	90.5%	237	20.2%
Antidepressant ³	725	36.4%	245	33.8%	327	52.0%	201	61.5%	1052	40.1%	446	42.4%

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2000 – 2007

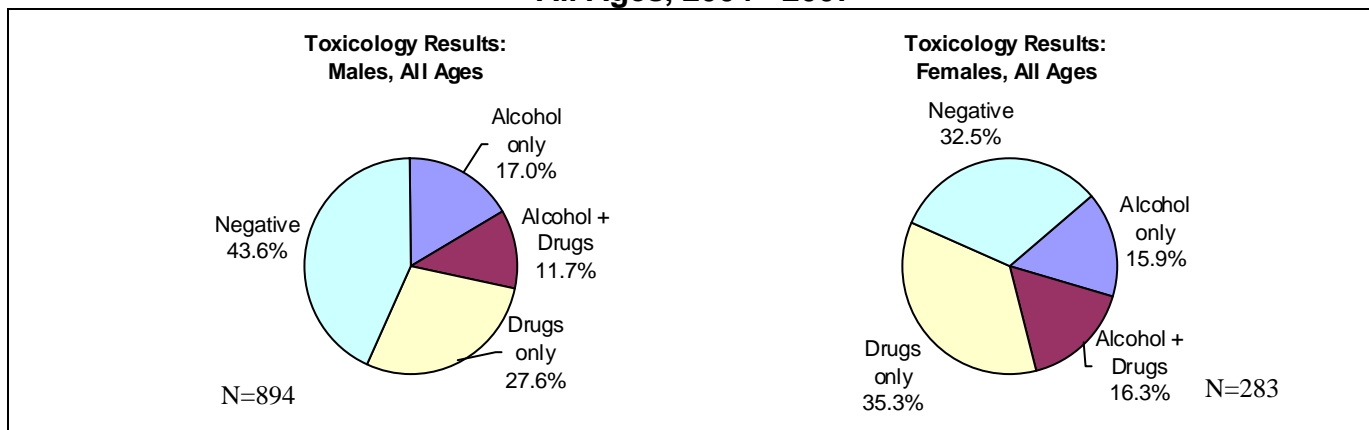
¹ In some cases, some or all of the alcohol detected could be a result of decomposition rather than exogenous use of alcohol

² Results for cannabinoids and benzodiazepines are from 2004 – 2007

³ In suicides by traumatic or asphyxial methods, testing for antidepressants is unlikely to be performed unless the decedent is known or thought to have been prescribed antidepressant medications

The following graphs show the percentage of suicide victims who tested positive for alcohol and/or common drugs of abuse from 2004 through 2007. 56.4% of men and 67.5% of women tested positive for at least one of these substances. The actual number with positive toxicologies for any substance may be considerably higher, since this does not include many prescription and over the counter drugs that are not part of the routine toxicology screen.

Figure 1.8: Toxicology Results for Alcohol and Drugs of Abuse by Gender, All Ages, 2004 - 2007



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2004 – 2007

Note: "Drugs of Abuse" includes methamphetamine, opiates, cocaine, cannabinoids, and benzodiazepines.

This graph does not include antidepressants

Section 1: All Ages

Toxicology by Suicide Method

Individuals who died from OD/Poisoning suicides were much more likely than others to test positive for opiates, benzodiazepines, and antidepressants. Methamphetamine was highest in suicides from hanging or asphyxia, and those who died from jumping were the most likely to test positive for cannabinoids.

Table 1.9: Toxicology Results by Suicide Method, All Ages, 2000 - 2007

Suicide Method	Substance	Tested		Positive	
		No.	%	No.	%
OD/Poison	Alcohol $\geq 0.08\%$ ¹	497	92.2%	92	18.5%
	Alcohol $< 0.08\%$ ¹	497	92.2%	52	10.5%
	Methamphetamine	499	92.6%	42	8.4%
	Opiates	504	93.5%	189	37.5%
	Cocaine metabolites	502	93.1%	25	5.0%
	Cannabinoids ²	261	96.7%	16	6.1%
	Benzodiazepines ²	261	96.7%	108	41.4%
	Antidepressant ³	363	67.3%	264	72.7%
Hang/Asphyxia	Alcohol $\geq 0.08\%$ ¹	515	90.7%	112	21.7%
	Alcohol $< 0.08\%$ ¹	515	90.7%	58	11.3%
	Methamphetamine	500	88.0%	73	14.6%
	Opiates	499	87.9%	35	7.0%
	Cocaine metabolites	500	88.0%	20	4.0%
	Cannabinoids ²	268	88.2%	33	12.3%
	Benzodiazepines ²	268	88.2%	38	14.2%
	Antidepressant ³	208	36.6%	57	27.4%
Firearm	Alcohol $\geq 0.08\%$ ¹	985	92.5%	220	22.3%
	Alcohol $< 0.08\%$ ¹	985	92.5%	87	8.8%
	Methamphetamine	899	84.4%	49	5.5%
	Opiates	901	84.6%	94	10.4%
	Cocaine metabolites	900	84.5%	23	2.6%
	Cannabinoids ²	432	87.3%	42	9.7%
	Benzodiazepines ²	432	87.3%	58	13.4%
	Antidepressant ³	291	27.3%	65	22.3%
Jump	Alcohol $\geq 0.08\%$ ¹	163	91.1%	17	10.4%
	Alcohol $< 0.08\%$ ¹	163	91.1%	13	8.0%
	Methamphetamine	160	89.4%	11	6.9%
	Opiates	161	89.9%	9	5.6%
	Cocaine metabolites	161	89.9%	6	3.7%
	Cannabinoids ²	83	93.3%	11	13.3%
	Benzodiazepines ²	83	93.3%	13	15.7%
	Antidepressant ³	74	41.3%	23	31.1%
Other	Alcohol $\geq 0.08\%$ ¹	253	93.4%	49	19.4%
	Alcohol $< 0.08\%$ ¹	253	93.4%	28	11.1%
	Methamphetamine	247	91.1%	16	6.5%
	Opiates	247	91.1%	23	9.3%
	Cocaine metabolites	247	91.1%	6	2.4%
	Cannabinoids ²	131	92.9%	8	6.1%
	Benzodiazepines ²	131	92.9%	20	15.3%
Antidepressant ³	116	42.8%	37	31.9%	

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2000 – 2007

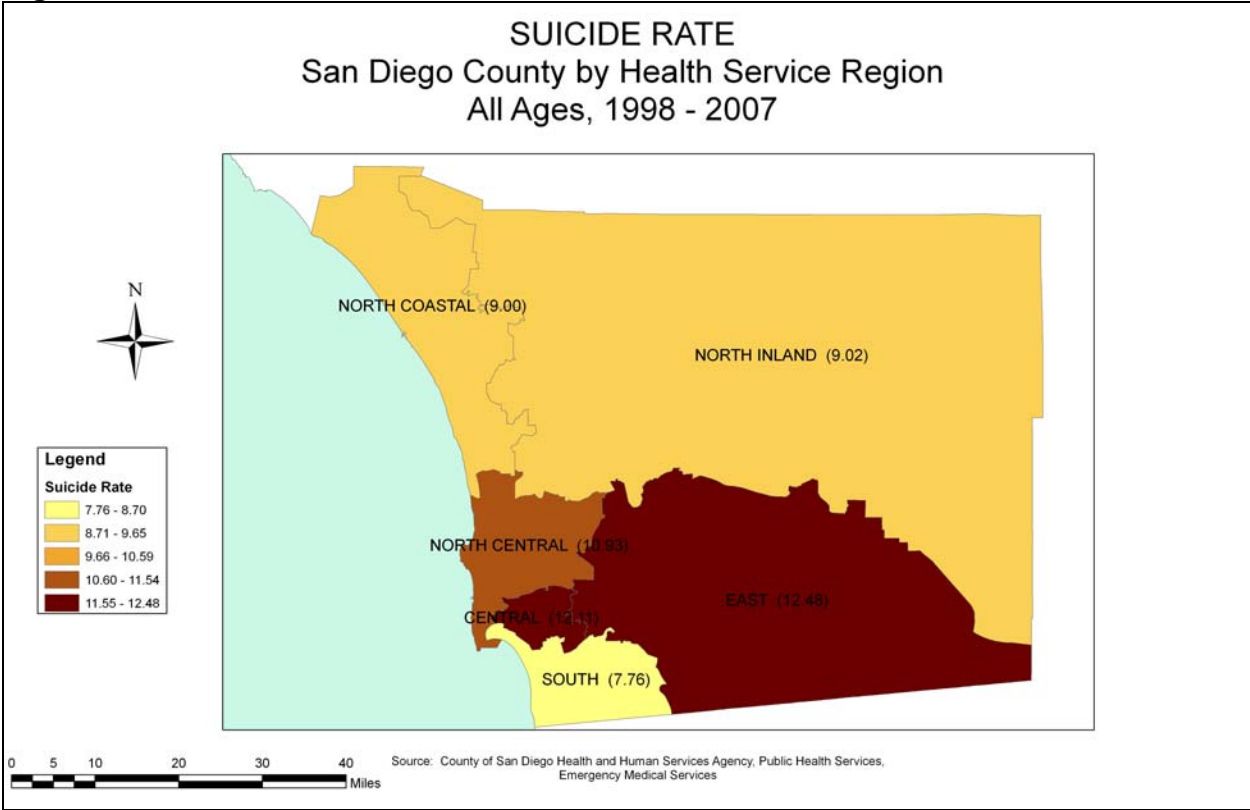
¹ In some cases, some or all of the alcohol detected could be a result of decomposition rather than exogenous use of alcohol

² Results for cannabinoids and benzodiazepines are from 2004 – 2007

³ In suicides by traumatic or asphyxial methods, testing for antidepressants is unlikely to be performed unless the decedent is known or thought to have been prescribed antidepressant medications

Geographic Distribution

Figure 1.9



The suicide rate was highest in the Central and East regions of the county, and lowest in the South region.

**Table 1.10:
Suicides by San Diego County
Health Service Region
1998 - 2007**

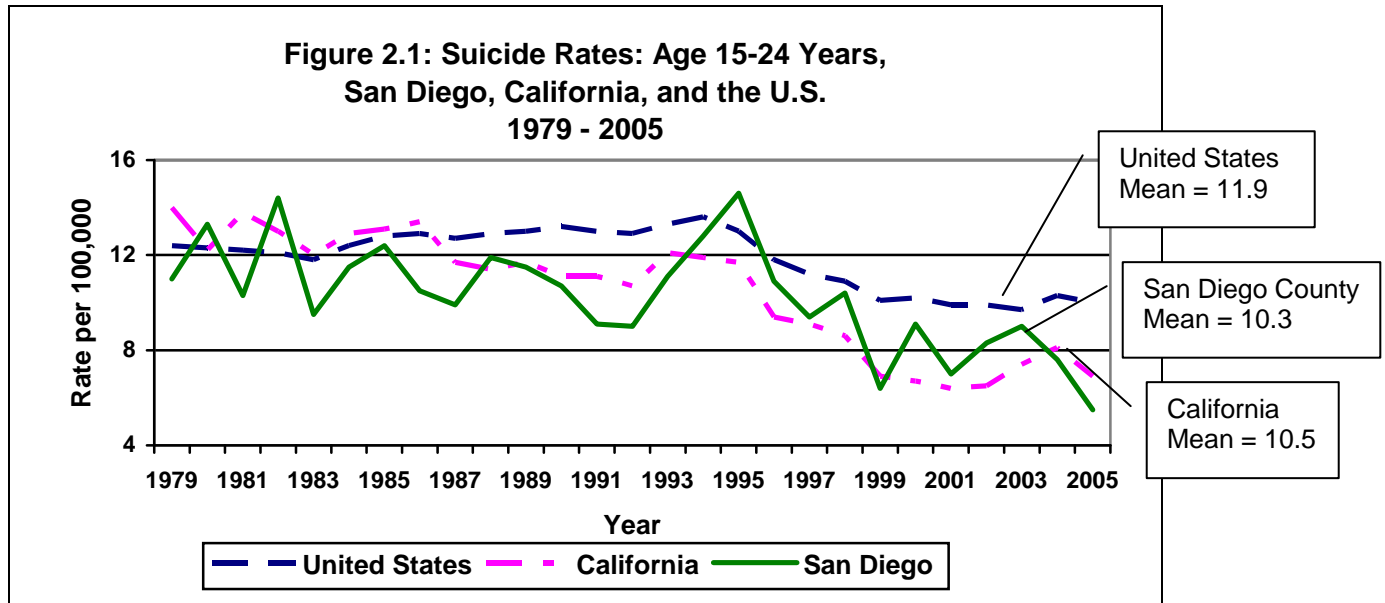
Health Service Region	Number	Rate [†]
North Coastal	438	9.00
North Central	622	10.93
Central	584	12.11
South	328	7.76
East	562	12.48
North Inland	461	9.02
Unknown	253	--
Total	3248	11.11

[†]Rate per 100,000
Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Section 2: Adolescents and Young Adults

Comparison with California and the United States

Suicide rates in teens and young adults over the past two decades have seen an overall decline, but remain at levels that are unfortunately too high.



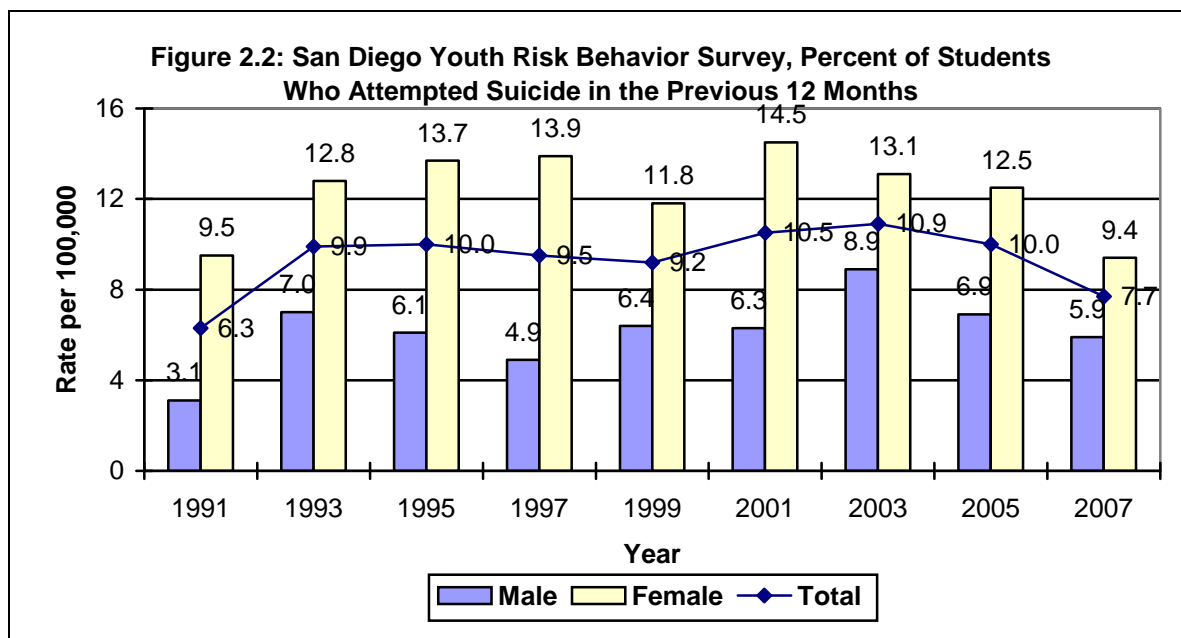
Source: CDC Wonder Compressed Mortality Database, 1979 - 2005

Section 2: Adolescents and Young Adults

Youth Risk Behavior Survey

Examining data on suicide attempts may lead to important information on reducing the rate of suicide, particularly among youth. The Youth Risk Behavior Survey (YRBS), conducted by the Centers for Disease Control and Prevention (CDC), measures behaviors that put teens at risk, including suicide attempts. San Diego City Schools participate in this voluntary survey, which is given every two years to students in grades 9-12.

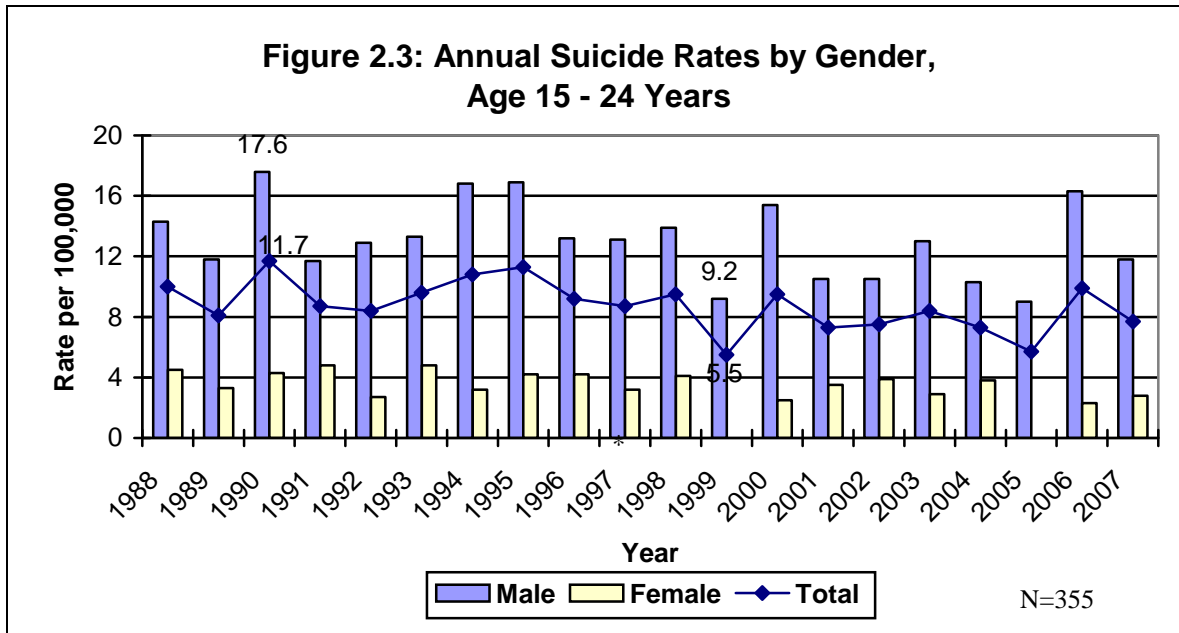
In the spring 2007 YRBS, 7.7% of students surveyed from San Diego City Schools reported attempting suicide at least once during the previous 12 months. This has ranged from 6.3% in the 1991 survey to a high of 10.9% according to the 2003 survey. Girls consistently reported having attempted suicide more often than boys, with a positive response rate as high as 14.5% in the 2001 survey. Nationally, 6.9% of all students surveyed in 2007 reported a suicide attempt during the previous 12 months.



Source: 2007 Youth Risk Behavior Survey Results, San Diego High School Survey Summary
 Accessed online at <http://www.cdc.gov/HealthyYouth/yrbs/index.htm> (last accessed: 6/18/08)

Section 2: Adolescents and Young Adults

Annual Rates



Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner Database, 1988 - 2007

*Rates not calculated for fewer than five incidents

The annual suicide rate among young people in San Diego County averaged 7.9 per 100,000 from 1998 through 2007. The overall trend has been downward, dropping 20% compared to the average annual rate during the previous 10-year period of 1988 through 1997 (9.9 per 100,000).

**Table 2.1: Annual Suicide Number and Rate,
Age 15 – 24 Years**

Year	Male		Female		Total	
	Number	Rate [†]	Number	Rate	Number	Rate
1998	33	13.9	8	4.1	41	9.5
1999	22	9.2	2	*	24	5.5
2000	36	15.4	5	2.5	41	9.5
2001	25	10.5	7	3.5	32	7.3
2002	26	10.5	8	3.9	34	7.5
2003	33	13.0	6	2.9	39	8.4
2004	26	10.3	8	3.8	34	7.3
2005	23	9.0	4	*	27	5.7
2006	42	16.3	5	2.3	47	9.9
2007	30	11.8	6	2.8	36	7.7
Total	296	12.0	59	2.9	355	7.8

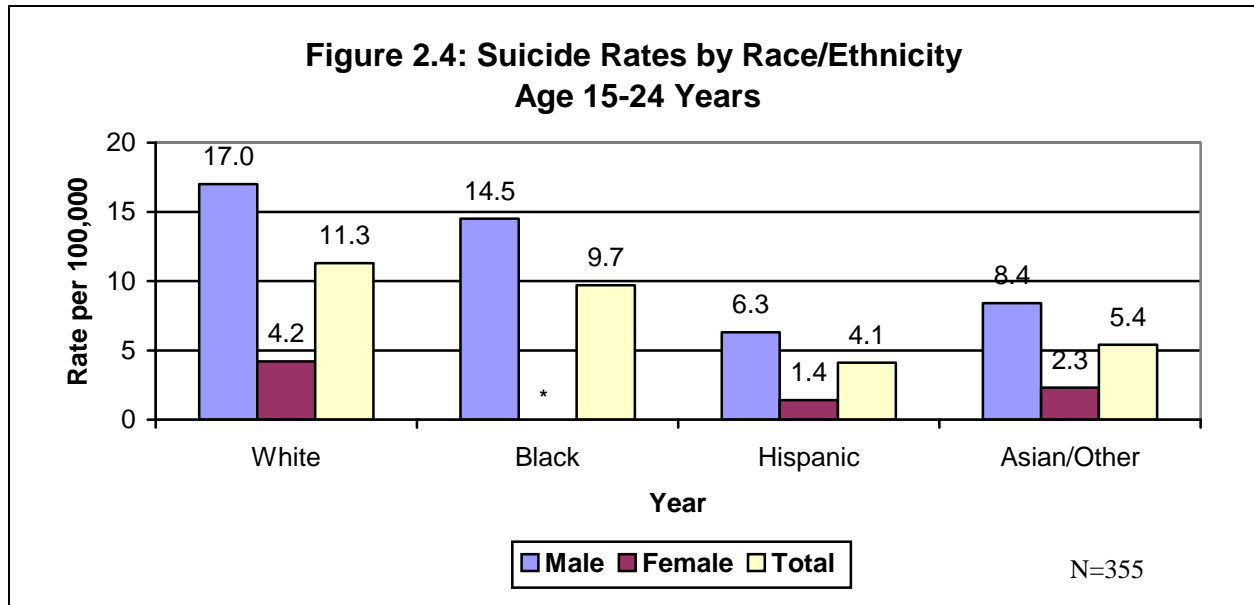
[†]Rate per 100,000

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 – 2007

*Rates not calculated for fewer than five incidents

Section 2: Adolescents and Young Adults

Race/Ethnicity



Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner Database, 1998 – 2007

*Rates not calculated for fewer than five incidents.

Unlike all ages combined, in which the suicide rate among Whites was more than double that of any other ethnic group, suicide rates in the 15 to 24-year age range were much more even across race/ethnic groups. Suicide among San Diego County's young people is highest among White and Black males, followed by Asian/Other males and Hispanic males.

**Table 2.2: Suicides by Race/Ethnicity and Gender,
Age 15-24 Years**

Race/ Ethnicity	Male		Female		Total	
	Number	Rate [†]	Number	Rate	Number	Rate
White	190	17.0	38	4.2	228	11.3
Black	24	14.5	4	*	28	9.7
Hispanic	54	6.3	10	1.4	64	4.1
Asian/Other	28	8.4	7	2.3	35	5.4
Total	296	12.0	59	2.9	356	7.8

[†]Rate per 100,000

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 – 2007

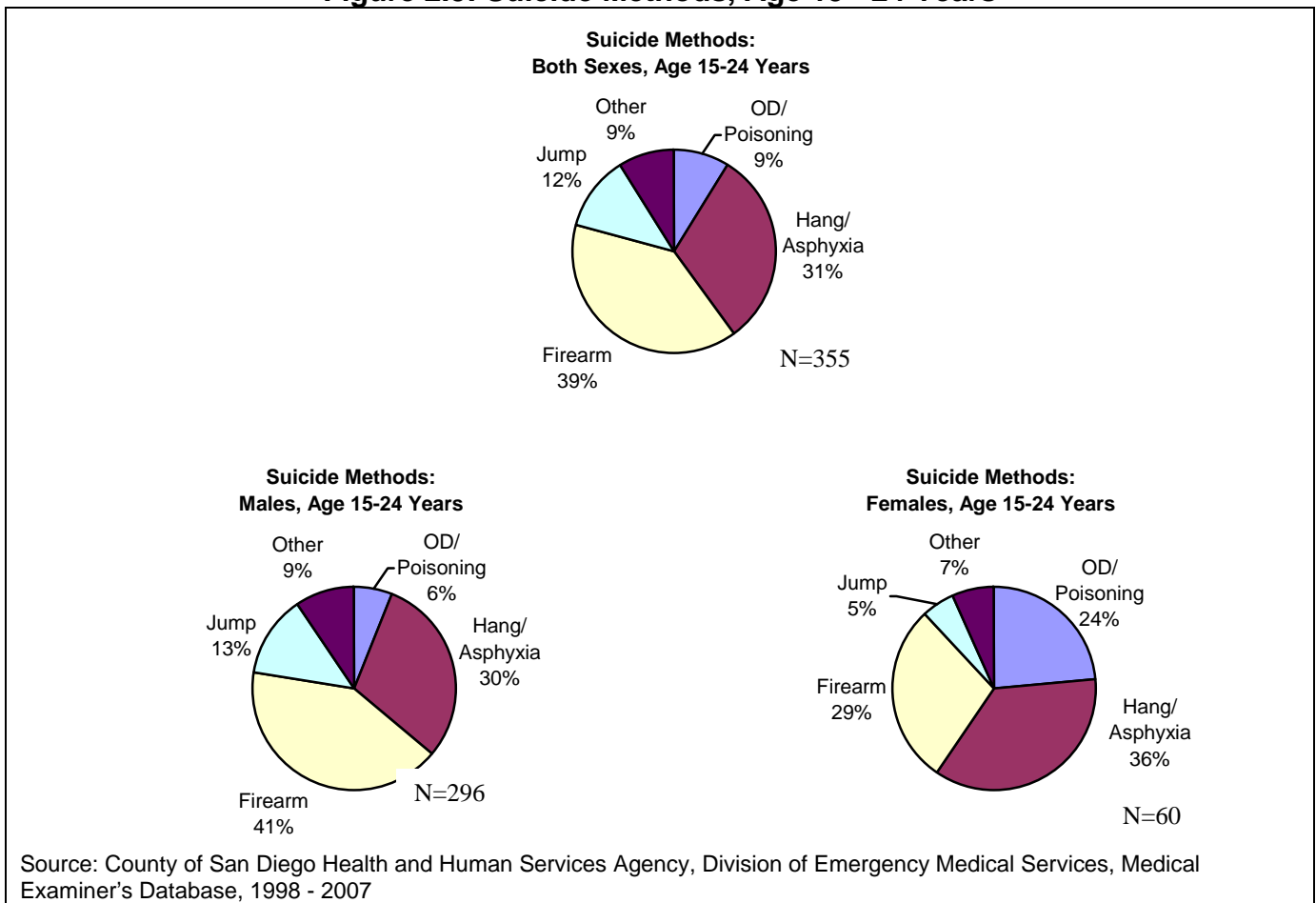
*Rates not calculated for fewer than five incidents.

Section 2: Adolescents and Young Adults

Suicide Methods

Firearms were the leading method of completed suicide among young people, accounting for 41% of suicides by males and 29% by females. Suicide methods were much more evenly distributed between the sexes in this age group than in older ages, where females overall were more likely to use drugs/poisons and males were more likely to use firearms.

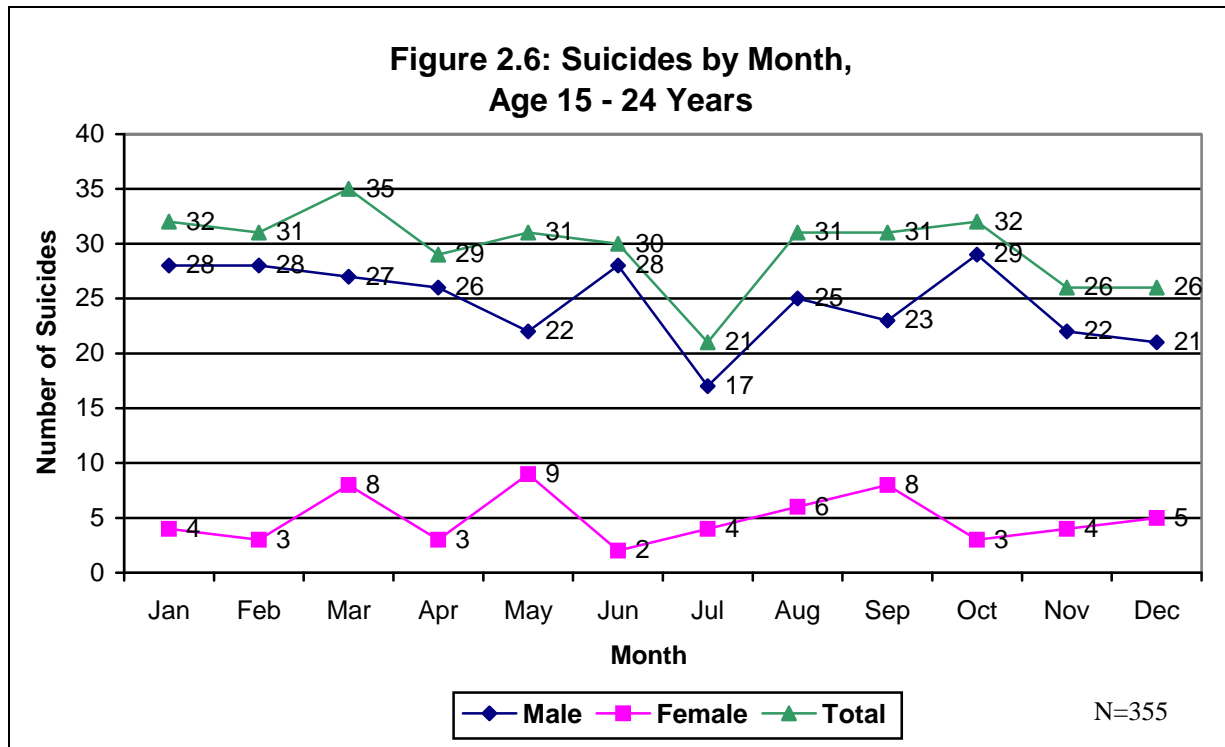
Figure 2.5: Suicide Methods, Age 15 - 24 Years



Section 2: Adolescents and Young Adults

Month

The highest number of suicides among individuals aged 15 to 24 years occurred during the month of March, and the lowest number was in July.



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Section 2: Adolescents and Young Adults

Toxicology by Gender

The Medical Examiner's Office performed toxicology analyses for drugs of abuse on nearly 90% of suicides from 2000 through 2007. Cannabinoids, which include marijuana, and benzodiazepines, a commonly abused class of tranquilizer, were added to the drugs of abuse panel in 2004. Of 15 to 24 year old suicide victims who were tested, 25.5% tested positive for alcohol with 16.5% returning blood alcohol levels of 0.08% or higher. Women who died from suicide were much more likely than men to test positive for cocaine, opiates and benzodiazepines, while men were more likely to test positive for cannabinoids. Antidepressants, for which more selective testing is performed, were also more likely to appear in women (42.1% of women vs. 13.1% of men tested).

Table 2.3: Toxicology Results by Gender, Age 15 – 24 Years, 2000 - 2007

Substance	Male				Female				Total			
	Tested		Positive		Tested		Positive		Tested		Positive	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Alcohol $\geq 0.08\%$ ¹	210	87.1%	35	16.7%	45	91.8%	7	15.6%	255	87.9%	42	16.5%
Alcohol $< 0.08\%$ ¹	210	87.1%	19	9.0%	45	91.8%	4	8.9%	255	87.9%	23	9.0%
Methamphetamine	212	88.0%	21	9.9%	44	89.8%	6	13.6%	256	88.3%	27	10.5%
Opiates	212	88.0%	7	3.3%	44	89.8%	3	6.8%	256	88.3%	10	3.9%
Cocaine metabolites	212	88.0%	7	3.3%	44	89.8%	6	13.6%	256	88.3%	13	5.1%
Cannabinoids ²	109	90.1%	26	23.9%	21	91.3%	2	9.5%	130	90.3%	28	21.5%
Benzodiazepines ²	109	90.1%	4	3.7%	21	91.3%	3	14.3%	130	90.3%	7	5.4%
Antidepressant ³	84	34.9%	11	13.1%	19	38.8%	8	42.1%	103	35.5%	19	18.4%

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2000 – 2007

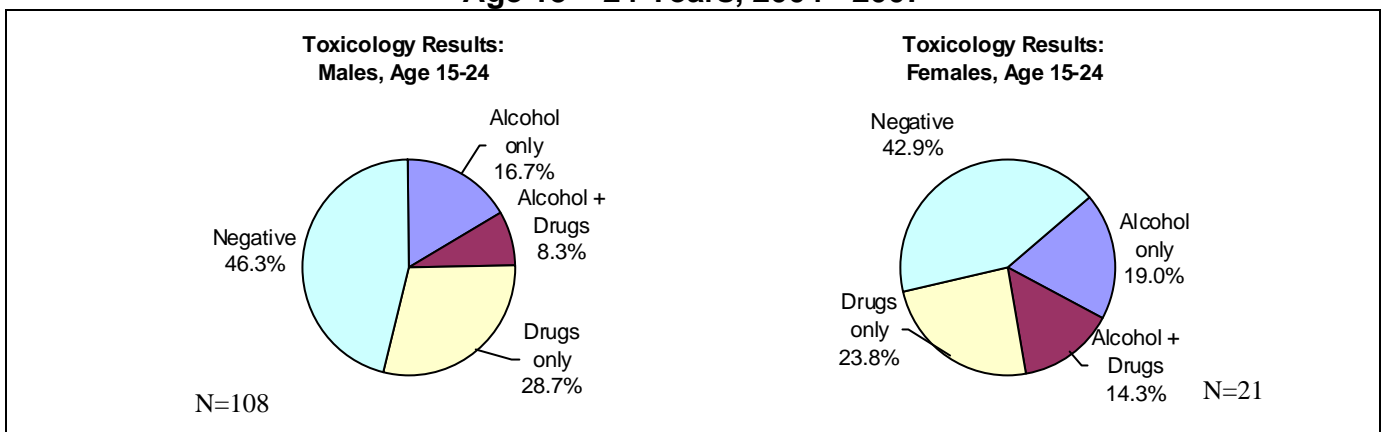
¹ In some cases, some or all of the alcohol detected could be a result of decomposition rather than exogenous use of alcohol

² Results for cannabinoids and benzodiazepines are from 2004 – 2007

³ In suicides by traumatic or asphyxial methods, testing for antidepressants is unlikely to be performed unless the decedent is known or thought to have been prescribed antidepressant medications

Positive toxicology results for alcohol and/or drugs of abuse were found in 53.7% of male and 57.1% of female suicide victims age 15 to 24. The actual number with positive toxicologies for any substance may be considerably higher, since this does not include many prescription and over the counter drugs that are not part of the routine toxicology screen.

Figure 2.7: Toxicology Results for Alcohol and Drugs of Abuse by Gender, Age 15 – 24 Years, 2004 - 2007



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2004 – 2007

Note: "Drugs of Abuse" includes methamphetamine, opiates, cocaine, cannabinoids, and benzodiazepines.

This graph does not include antidepressants

Section 2: Adolescents and Young Adults

Toxicology by Suicide Method

Individuals who died from OD/Poisoning suicides were much more likely than others to test positive for opiates, benzodiazepines, and antidepressants. Methamphetamine was highest in suicides from hanging or asphyxia, and cannabinoids were highest in suicides from jumping (30.8% positive) and firearms (28.6% positive)

Table 2.4: Toxicology Results by Suicide Method, Age 15 – 24 Years, 2000 – 2007

Suicide Method	Substance	Tested		Positive	
		No.	%	No.	%
OD/Poison	Alcohol $\geq 0.08\%$ ¹	22	73.3%	3	13.6%
	Alcohol $< 0.08\%$ ¹	22	73.3%	5	22.7%
	Methamphetamine	23	76.7%	2	8.7%
	Opiates	23	76.7%	3	13.0%
	Cocaine metabolites	23	76.7%	4	17.4%
	Cannabinoids ²	11	84.6%	0	0.0%
	Benzodiazepines ²	11	84.6%	2	18.2%
	Antidepressant ³	12	40.0%	9	75.0%
Hang/Asphyxia	Alcohol $\geq 0.08\%$ ¹	80	89.9%	15	18.8%
	Alcohol $< 0.08\%$ ¹	80	89.9%	3	3.8%
	Methamphetamine	79	88.8%	12	15.2%
	Opiates	79	88.8%	3	3.8%
	Cocaine metabolites	79	88.8%	5	6.3%
	Cannabinoids ²	46	93.9%	10	21.7%
	Benzodiazepines ²	46	93.9%	2	4.3%
	Antidepressant ³	36	40.4%	4	11.1%
Firearm	Alcohol $\geq 0.08\%$ ¹	95	89.6%	19	20.0%
	Alcohol $< 0.08\%$ ¹	95	89.6%	8	8.4%
	Methamphetamine	96	90.6%	7	7.3%
	Opiates	96	90.6%	1	1.0%
	Cocaine metabolites	96	90.6%	4	4.2%
	Cannabinoids ²	42	89.4%	12	28.6%
	Benzodiazepines ²	42	89.4%	1	2.4%
	Antidepressant ³	31	29.2%	3	9.7%
Jump	Alcohol $\geq 0.08\%$ ¹	32	86.5%	1	3.1%
	Alcohol $< 0.08\%$ ¹	32	86.5%	5	15.6%
	Methamphetamine	32	86.5%	4	12.5%
	Opiates	32	86.5%	0	0.0%
	Cocaine metabolites	32	86.5%	0	0.0%
	Cannabinoids ²	13	86.7%	4	30.8%
	Benzodiazepines ²	13	86.7%	1	7.7%
	Antidepressant ³	14	37.8%	3	21.4%
Other	Alcohol $\geq 0.08\%$ ¹	26	92.9%	4	15.4%
	Alcohol $< 0.08\%$ ¹	26	92.9%	2	7.7%
	Methamphetamine	26	92.9%	2	7.7%
	Opiates	26	92.9%	3	11.5%
	Cocaine metabolites	26	92.9%	0	0.0%
	Cannabinoids ²	18	90.0%	2	11.1%
	Benzodiazepines ²	18	90.0%	1	5.6%
	Antidepressant ³	10	35.7%	0	0.0%

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2000 – 2007

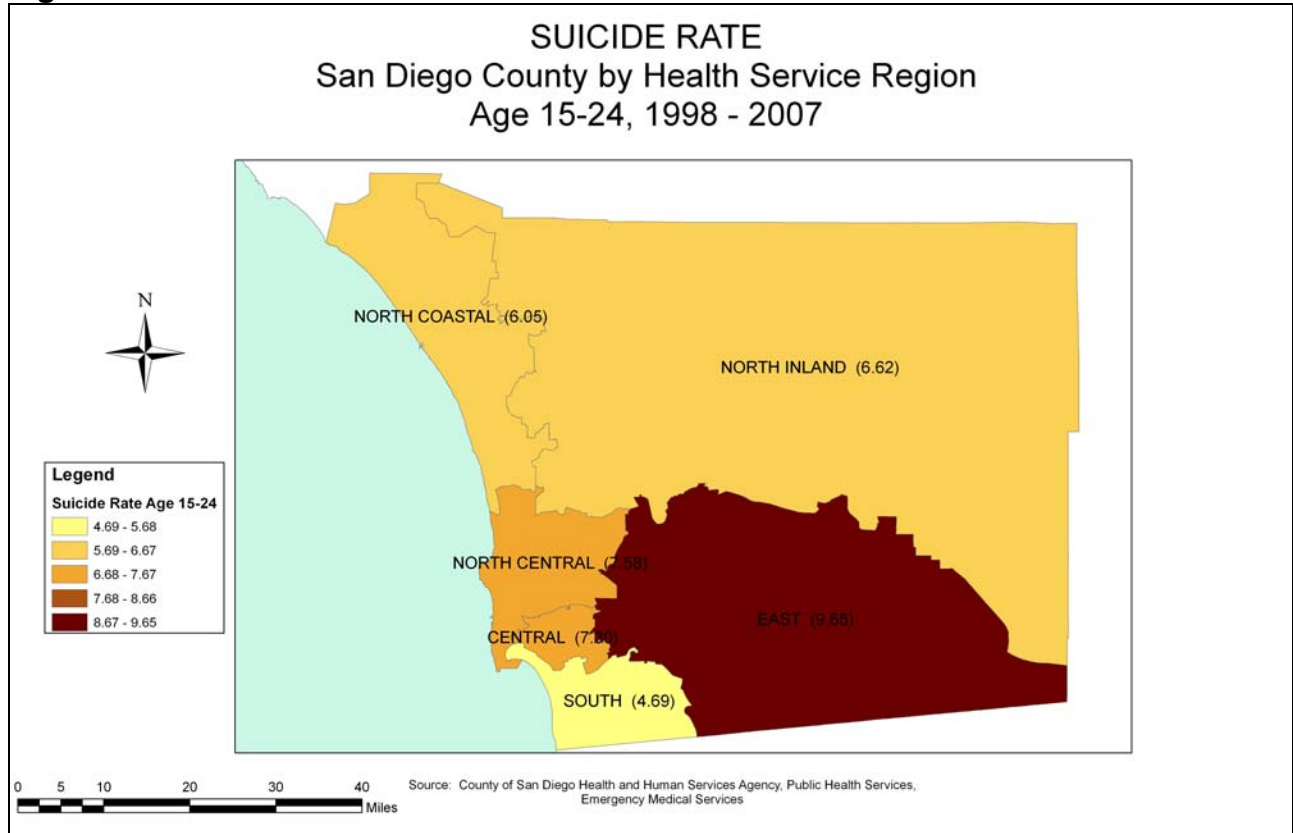
¹ In some cases, some or all of the alcohol detected could be a result of decomposition rather than exogenous use of alcohol

² Results for cannabinoids and benzodiazepines are from 2004 – 2007

³ In suicides by traumatic or asphyxial methods, testing for antidepressants is unlikely to be performed unless the decedent is known or thought to have been prescribed antidepressant medications

Geographic Distribution

Figure 2.8



The suicide rate was highest in the East Health Service Region (HSR). The lowest rate was observed in the South HSR, which covers the communities of Chula Vista, Sweetwater, and South Bay.

Table 2.5:
Suicides by San Diego County Health Service Region, Age 15 – 24, 1998 - 2007

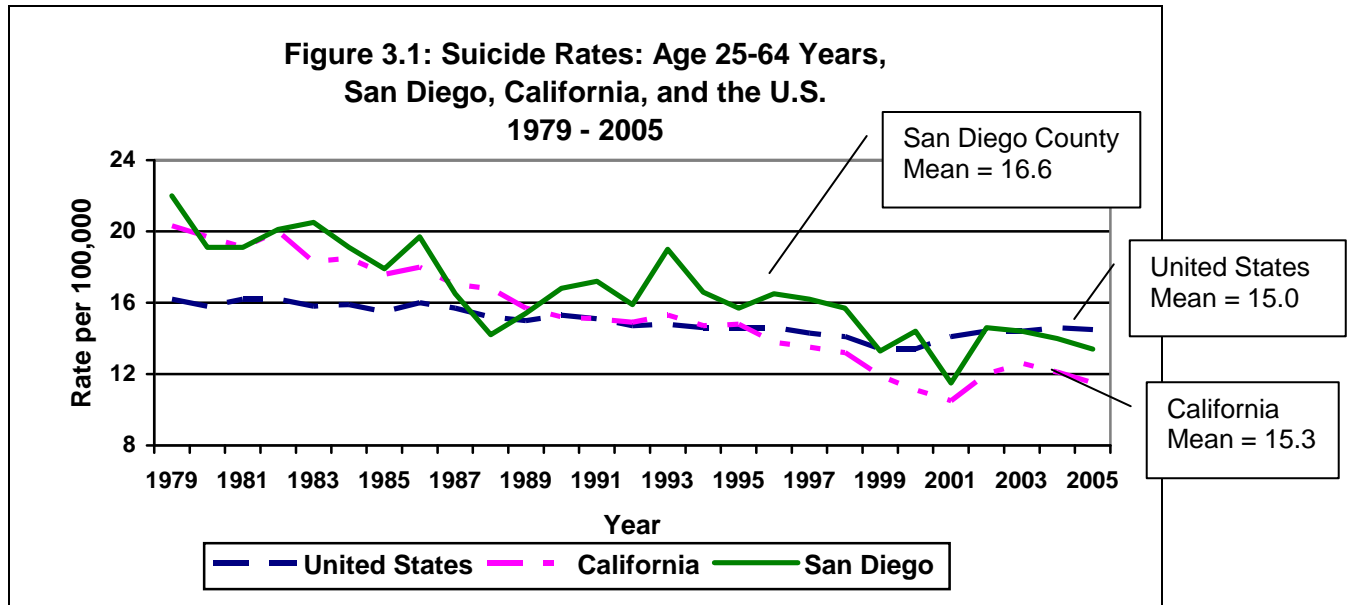
Health Service Region	Number	Rate [†]
North Coastal	48	6.05
North Central	62	7.58
Central	60	7.30
South	34	4.69
East	62	9.65
North Inland	48	6.62
Unknown	41	--
Total	355	7.84

[†]Rate per 100,000
Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Section 3: Working-Aged Adults

Comparison with California and the United States

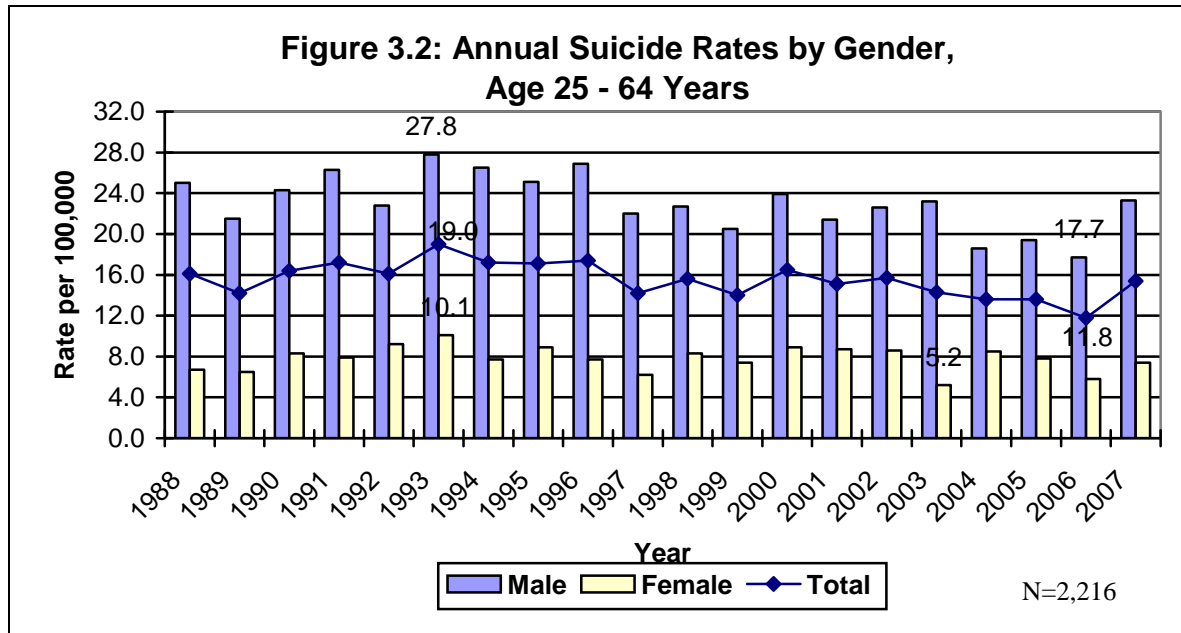
Suicide rates in working aged adults (25-64 years) over the past two decades have seen an overall decline, but remain at levels that are unfortunately too high. In contrast with the 15 to 24 year age group, in which San Diego has lower rates than California and the United States, the rates are generally higher in San Diego for this age group.



Source: CDC Wonder Compressed Mortality Database, 1979 - 2005

Section 3: Working-Aged Adults

Annual Rates



Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner Database, 1998 - 2007

The suicide rate among working aged adults in San Diego County averaged 14.5 per 100,000 during the 10-year period from 1998 through 2007, and declined consistently from a high of 17.4 per 100,000 in 1999 to 13.6 per 100,000 in 2007. During this decade, men in this age group had an average annual rate of 21.3 per 100,000, and the rate for women was 7.6 per 100,000.

Table 3.1: Annual Suicide Number and Rate, Age 25 - 64 Years

Year	Male		Female		Total	
	Number	Rate [†]	Number	Rate	Number	Rate
1998	160	22.7	57	8.3	217	15.6
1999	147	20.5	52	7.4	199	14.0
2000	176	23.9	64	8.9	240	16.5
2001	160	21.4	64	8.7	224	15.1
2002	173	22.6	65	8.6	238	15.7
2003	182	23.2	40	5.2	222	14.3
2004	148	18.6	68	8.5	216	13.6
2005	156	19.4	63	7.8	219	13.6
2006	143	17.7	47	5.8	190	11.8
2007	191	23.3	60	7.4	251	15.4
Total	1636	21.3	580	7.6	2216	14.5

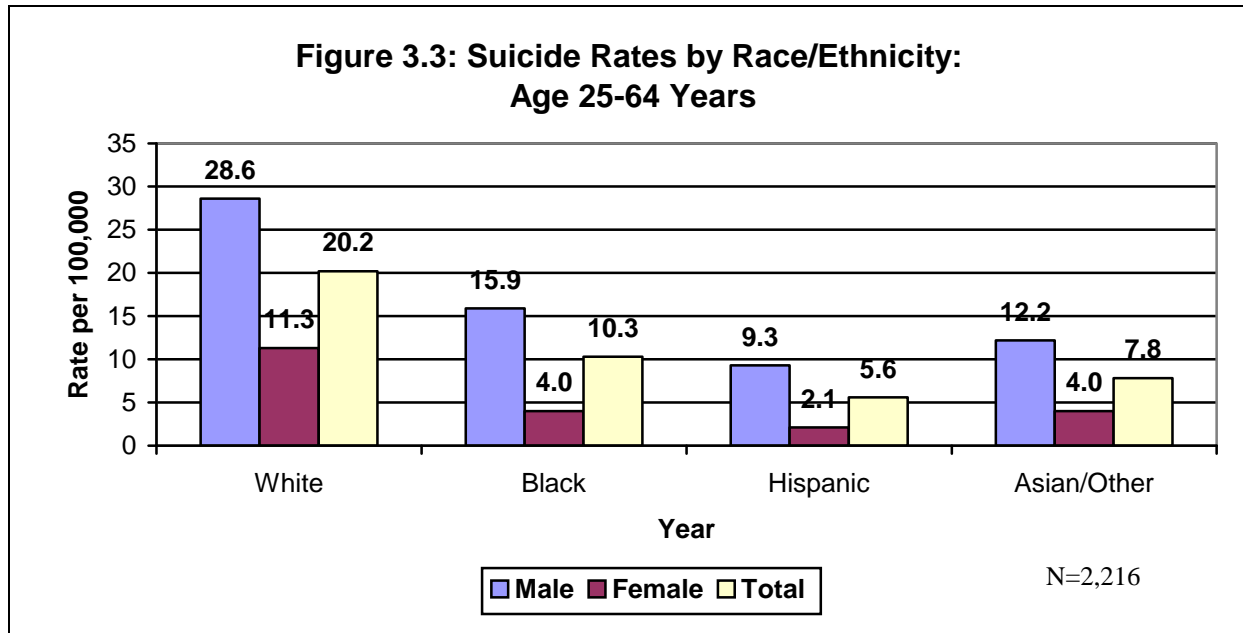
[†]Rate per 100,000

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Section 3: Working-Aged Adults

Race/Ethnicity

The suicide rate among working aged adults was highest in Whites, with White males having the highest risk of any race/gender combination. Males were substantially more at risk of committing suicide among all racial/ethnic groups.



Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Note: Race/ethnicity unknown for 9 cases.

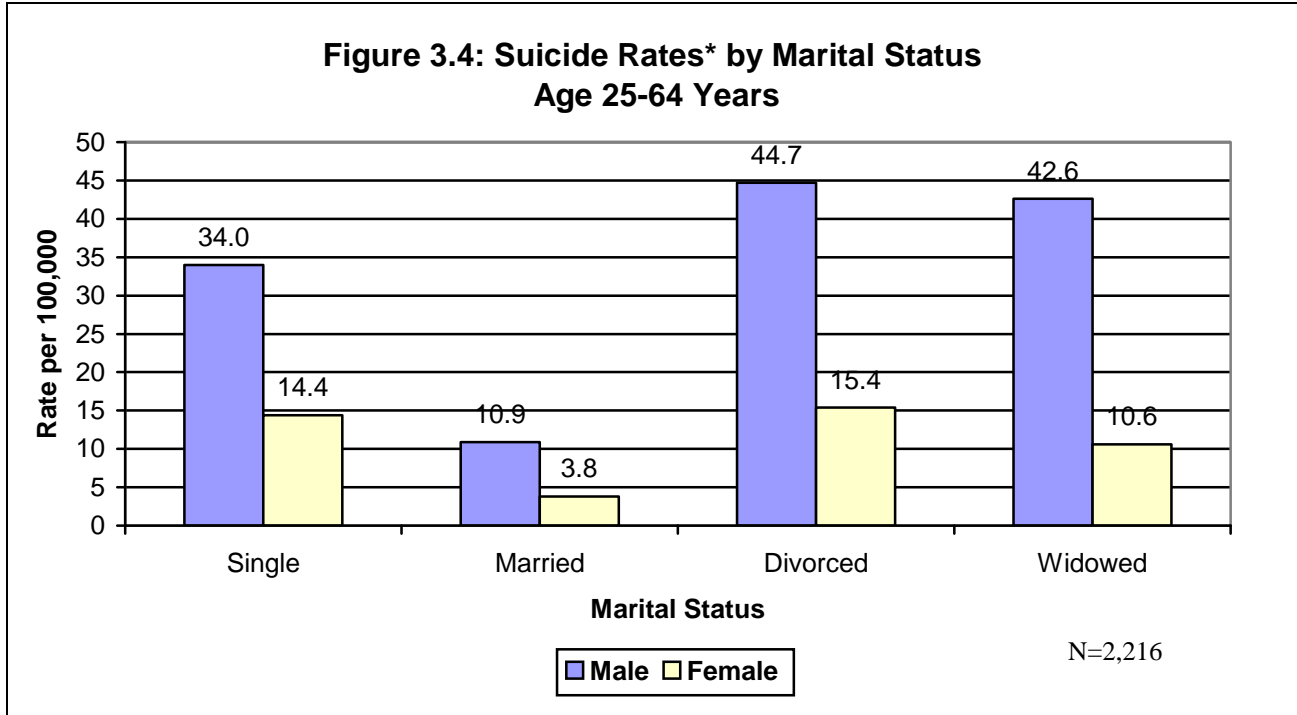
**Table 3.2: Suicides by Race/Ethnicity and Gender,
Age 25-64 Years**

Race/ Ethnicity	Male		Female		Total	
	Number	Rate [†]	Number	Rate	Number	Rate
White	1274	28.6	479	11.3	1753	20.2
Black	69	15.9	15	4.0	84	10.3
Hispanic	171	9.3	41	2.1	212	5.6
Asian/Other	115	12.2	43	4.0	158	7.8
Unknown	7	--	2	--	9	--
Total	1636	21.3	580	7.6	2216	14.5

[†]Rate per 100,000

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Marital Status



*Estimated rates per 100,000, based on 2000 US Census marital status distribution
 Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner Database, 1998 – 2007
 Note: Marital status unknown for 78 cases

Among working aged adults (25-64), it appears that marital status has a strong association with suicide risk. Those who were divorced, widowed, or single had a higher risk of suicide than those who were married. For example, a divorced male in this age group was more than four times more likely to commit suicide than a married male.

**Table 3.3: Suicides by Marital Status and Gender,
Age 25-64 Years**

Marital Status	Male		Female		Total	
	Number	Rate [†]	Number	Rate	Number	Rate
Single	639	34.0	176	14.4	815	26.3
Married	534	10.9	190	3.8	724	7.3
Divorced	373	44.7	179	15.4	552	27.6
Widowed	23	42.6	24	10.6	47	16.8
Unknown	67	--	11	--	78	--
Total	1636	21.3	580	7.6	2216	14.5

[†]Rate per 100,000

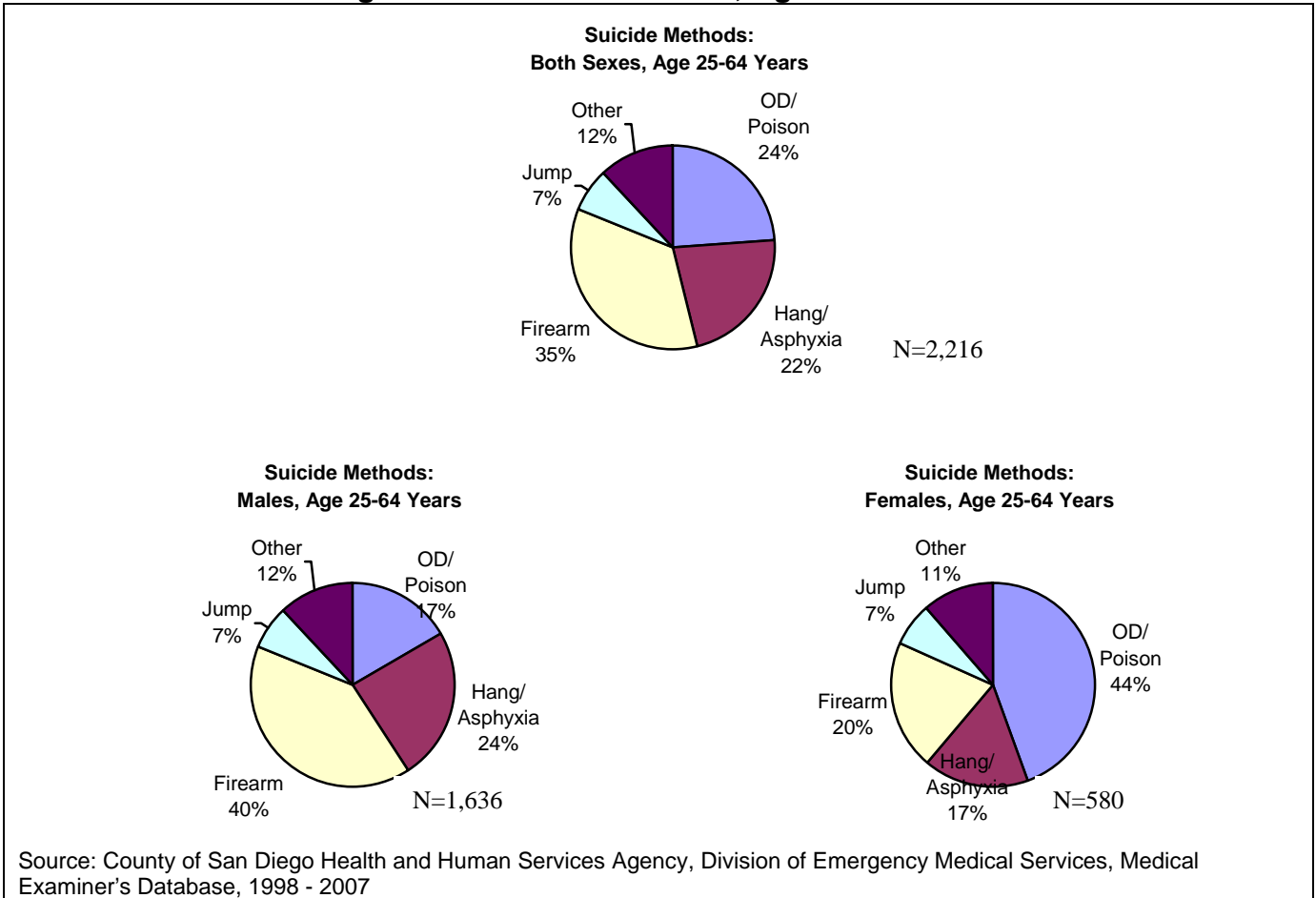
Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Section 3: Working-Aged Adults

Suicide Methods

Firearms were by far the leading method of suicide among working aged males, accounting for 40%. Among working aged females, 20% of suicides were attributed to firearms, with 44% dying from overdoses of drugs or poisons.

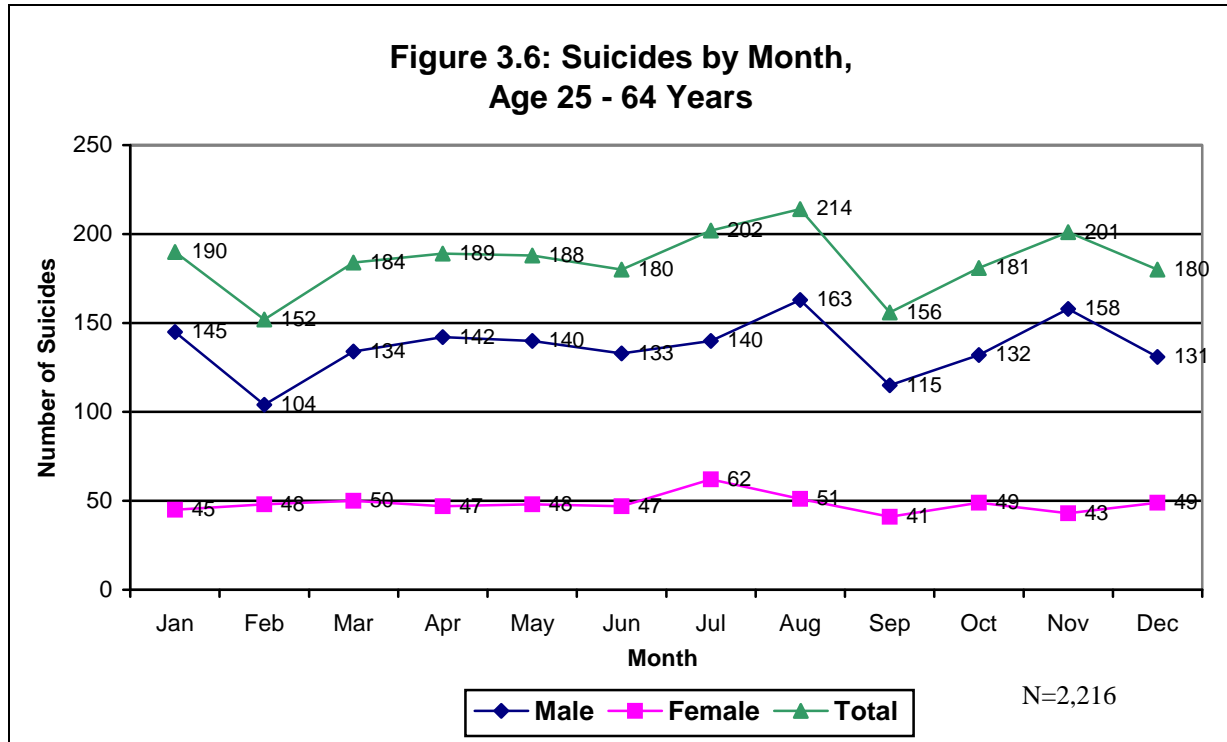
Figure 3.5: Suicide Methods, Age 25-64 Years



Section 3: Working-Aged Adults

Month

For the working-aged population, San Diego County does not show a strong seasonal trend in suicides, although the average number per day appears to increase in the springtime and reaches its maximum point in August. February and September had the fewest suicides overall.



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Section 3: Working-Aged Adults

Toxicology by Gender

The Medical Examiner's Office performed toxicology analyses for drugs of abuse on over 90% of suicides between 25 and 64 years of age from 2000 through 2007. Cannabinoids, which include marijuana, and benzodiazepines, a commonly abused class of tranquilizer, were added to the drugs of abuse panel in 2004. Of those tested, 36.0% tested positive for alcohol with 24.4% returning blood alcohol levels of 0.08% or higher. Women who died from suicide were much more likely than men to test positive for opiates and benzodiazepines, while men were more likely to test positive for cannabinoids. Antidepressants, for which more selective testing is performed, were also more likely to appear in women (65.8% of women vs. 38.0% of men tested).

Table 3.4: Toxicology Results by Gender, Age 25 – 64 Years, 2000 - 2007

Substance	Male				Female				Total			
	Tested		Positive		Tested		Positive		Tested		Positive	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Alcohol \geq 0.08% ¹	1250	94.1%	312	25.0%	433	91.9%	98	22.6%	1683	93.5%	410	24.4%
Alcohol <0.08% ¹	1250	94.1%	157	12.6%	433	91.9%	38	8.8%	1683	93.5%	195	11.6%
Methamphetamine	1229	92.5%	129	10.5%	428	90.9%	35	8.2%	1657	92.1%	164	9.9%
Opiates	1228	92.4%	153	12.5%	431	91.5%	98	22.7%	1659	92.2%	251	15.1%
Cocaine metabolites	1231	92.6%	47	3.8%	431	91.5%	18	4.2%	1662	92.3%	65	3.9%
Cannabinoids ²	602	94.4%	69	11.5%	225	94.5%	13	5.8%	827	94.4%	82	9.9%
Benzodiazepines ²	602	94.4%	109	18.1%	225	94.5%	70	31.1%	827	94.4%	179	21.6%
Antidepressant ³	523	39.4%	199	38.0%	260	55.2%	171	65.8%	783	43.5%	370	47.3%

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2000 – 2007

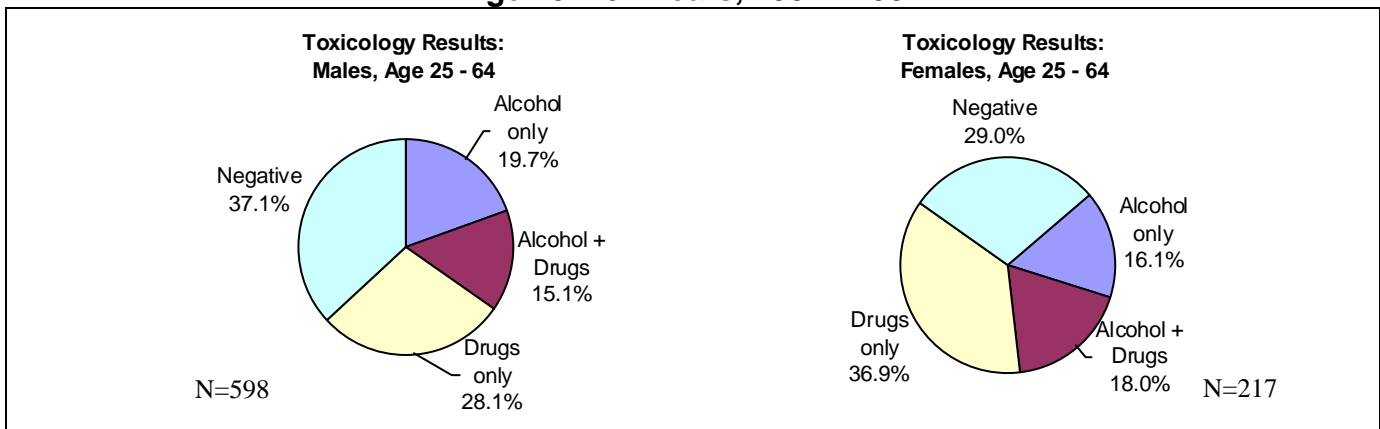
¹ In some cases, some or all of the alcohol detected could be a result of decomposition rather than exogenous use of alcohol

² Results for cannabinoids and benzodiazepines are from 2004 – 2007

³ In suicides by traumatic or asphyxial methods, testing for antidepressants is unlikely to be performed unless the decedent is known or thought to have been prescribed antidepressant medications

Positive toxicology results for alcohol and/or drugs of abuse were found in 62.9% of male and 71.0% of female suicide victims age 25 to 64. The actual number with positive toxicologies for any substance may be considerably higher, since this does not include many prescription and over the counter drugs that are not part of the routine toxicology screen.

Figure 3.7: Toxicology Results for Alcohol and Drugs of Abuse by Gender, Age 25 – 64 Years, 2004 - 2007



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2004 – 2007

Note: "Drugs of Abuse" includes methamphetamine, opiates, cocaine, cannabinoids, and benzodiazepines.

This graph does not include antidepressants

Section 3: Working-Aged Adults

Toxicology by Suicide Method

Individuals who died from OD/Poisoning suicides were much more likely than others to test positive for opiates, benzodiazepines, and antidepressants. Methamphetamine was highest in suicides from hanging or asphyxia (16.5% positive).

Table 3.5: Toxicology Results by Suicide Method, Age 25 – 64 Years, 2000 – 2007

Suicide Method	Substance	Tested		Positive	
		No.	%	No.	%
OD/Poison	Alcohol $\geq 0.08\%$ ¹	405	94.8%	82	20.2%
	Alcohol $< 0.08\%$ ¹	405	94.8%	46	11.4%
	Methamphetamine	403	94.4%	40	9.9%
	Opiates	406	95.1%	155	38.2%
	Cocaine metabolites	406	95.1%	19	4.7%
	Cannabinoids ²	214	98.2%	16	7.5%
	Benzodiazepines ²	214	98.2%	90	42.1%
	Antidepressant ³	304	71.2%	228	75.0%
Hang/Asphyxia	Alcohol $\geq 0.08\%$ ¹	376	90.8%	95	25.3%
	Alcohol $< 0.08\%$ ¹	376	90.8%	50	13.3%
	Methamphetamine	370	89.4%	61	16.5%
	Opiates	368	88.9%	21	5.7%
	Cocaine metabolites	370	89.4%	15	4.1%
	Cannabinoids ²	194	87.4%	23	11.9%
	Benzodiazepines ²	194	87.4%	29	14.9%
	Antidepressant ³	145	35.0%	47	32.4%
Firearm	Alcohol $\geq 0.08\%$ ¹	590	94.6%	177	30.0%
	Alcohol $< 0.08\%$ ¹	590	94.6%	68	11.5%
	Methamphetamine	575	92.1%	42	7.3%
	Opiates	575	92.1%	48	8.3%
	Cocaine metabolites	576	92.3%	19	3.3%
	Cannabinoids ²	263	95.6%	30	11.4%
	Benzodiazepines ²	263	95.6%	35	13.3%
	Antidepressant ³	192	30.8%	48	25.0%
Jump	Alcohol $\geq 0.08\%$ ¹	117	92.9%	14	12.0%
	Alcohol $< 0.08\%$ ¹	117	92.9%	8	6.8%
	Methamphetamine	116	92.1%	7	6.0%
	Opiates	117	92.9%	9	7.7%
	Cocaine metabolites	117	92.9%	6	5.1%
	Cannabinoids ²	61	96.8%	7	11.5%
	Benzodiazepines ²	61	96.8%	11	18.0%
	Antidepressant ³	51	40.5%	16	31.4%
Other	Alcohol $\geq 0.08\%$ ¹	195	93.3%	42	21.5%
	Alcohol $< 0.08\%$ ¹	195	93.3%	23	11.8%
	Methamphetamine	193	92.3%	14	7.3%
	Opiates	193	92.3%	18	9.3%
	Cocaine metabolites	193	92.3%	6	3.1%
	Cannabinoids ²	95	96.9%	6	6.3%
	Benzodiazepines ²	95	96.9%	14	14.7%
	Antidepressant ³	91	43.5%	31	34.1%

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2000 – 2007

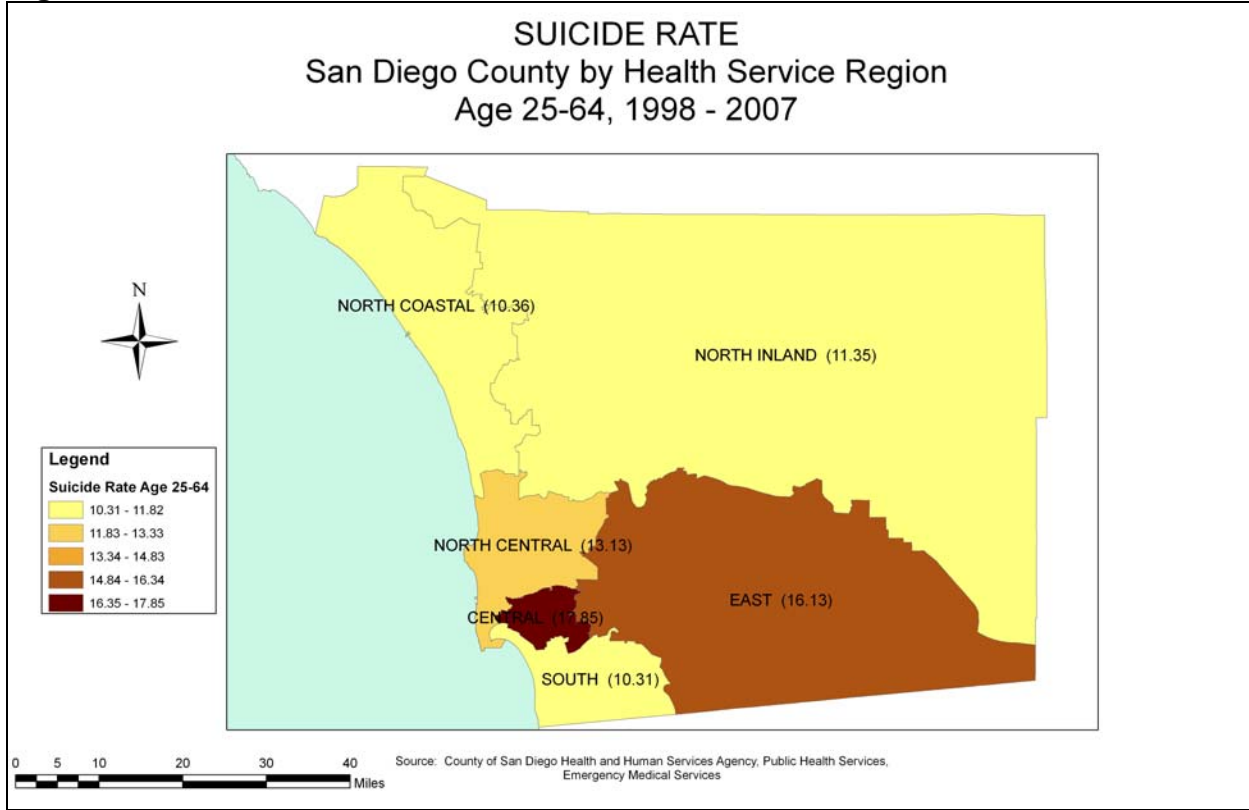
¹ In some cases, some or all of the alcohol detected could be a result of decomposition rather than exogenous use of alcohol

² Results for cannabinoids and benzodiazepines are from 2004 – 2007

³ In suicides by traumatic or asphyxial methods, testing for antidepressants is unlikely to be performed unless the decedent is known or thought to have been prescribed antidepressant medications

Geographic Distribution

Figure 3.8



Among working aged adults, the suicide rate was highest in the Central Health Service Region (HSR). The lowest rate was observed in the North Coastal region, which includes Carlsbad, Oceanside, Pendleton, and San Dieguito.

**Table 3.6:
Suicides by San Diego County
Health Service Region, Age 25 – 64,
1998 - 2007**

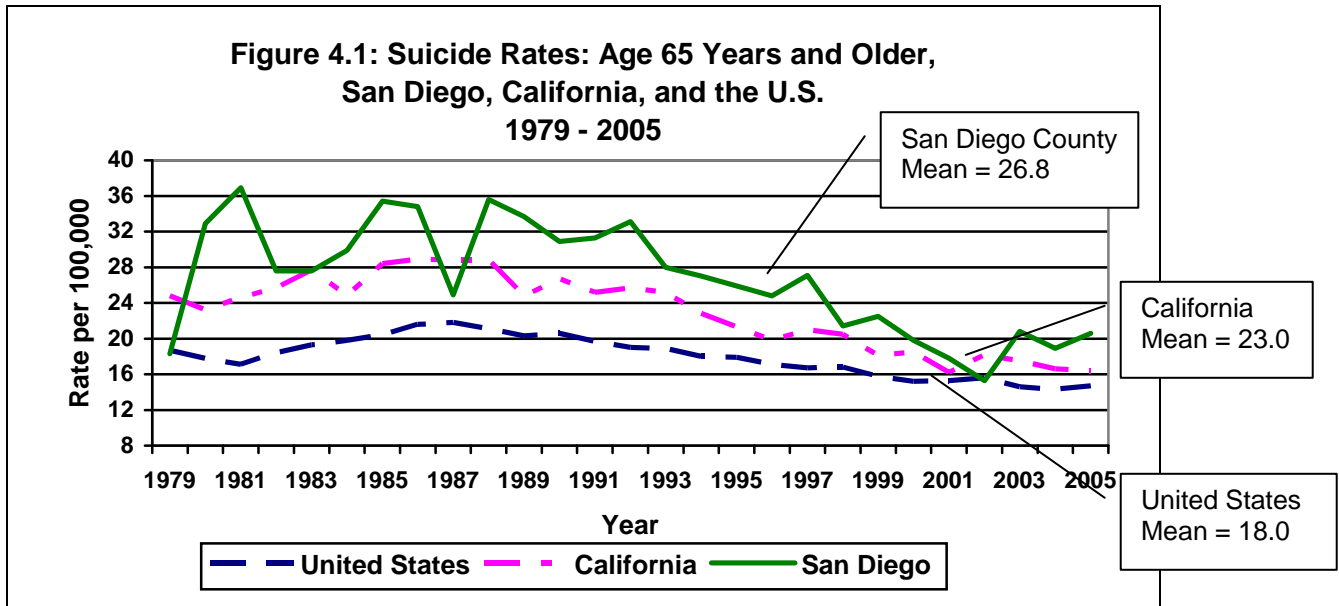
Health Service Region	Number	Rate [†]
North Coastal	255	10.36
North Central	423	13.13
Central	449	17.85
South	216	10.31
East	383	16.13
North Inland	296	11.35
Unknown	194	--
Total	2216	14.51

[†]Rate per 100,000

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1995 - 2004

Comparison with California and the United States

According to data from the Centers for Disease Control and Prevention (CDC)¹, the suicide rate among older adults has been generally higher in San Diego county than in either the state of California or the United States overall since 1979, although the rate for San Diego County, California, and the United States has declined since the late 80's.

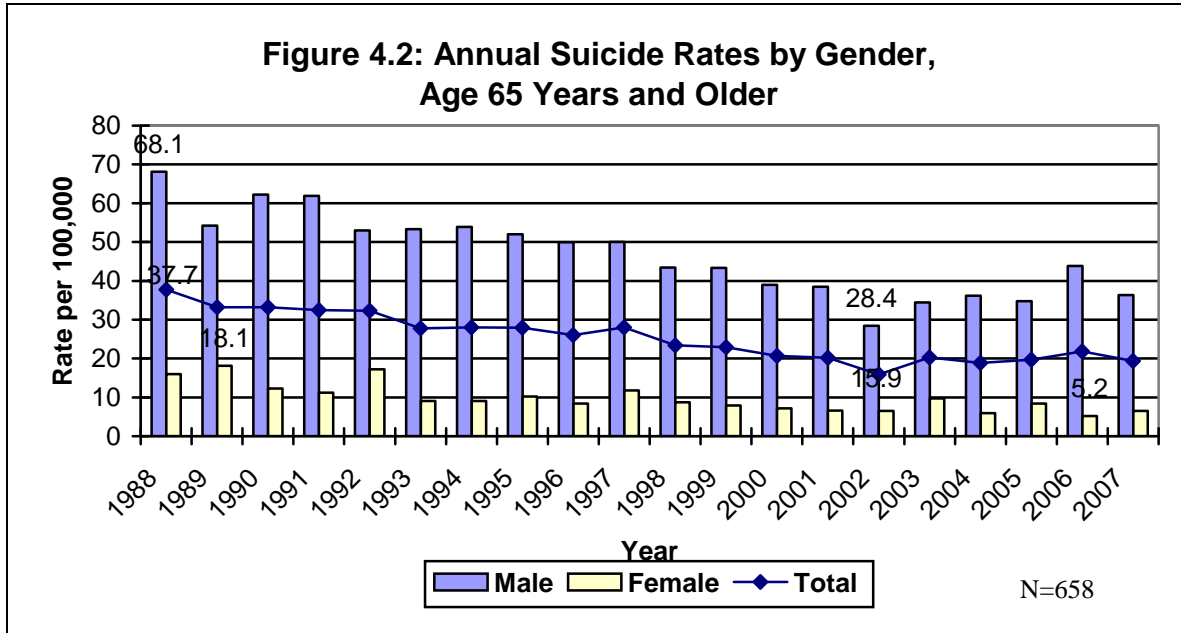


Source: CDC Wonder Compressed Mortality Database

¹ www.cdc.gov

Section 4: Older Adults

Annual Rates



Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner Database, 1988 - 2007

The suicide rate among older adults averaged 20.3 per 100,000 during the 10-year period from 1998 through 2007. This represented a 32% decline from the previous decade, when the suicide rate for older adults averaged 29.9 per 100,000 per year.

Table 4.1: Annual Suicide Number and Rate, Age 65 Years and Older

Year	Male		Female		Total	
	Number	Rate [†]	Number	Rate	Number	Rate
1998	55	43.4	15	8.7	70	23.4
1999	56	43.3	14	7.9	70	22.9
2000	52	39.0	13	7.2	65	20.7
2001	52	38.5	12	6.6	64	20.2
2002	39	28.4	12	6.5	51	15.9
2003	48	34.4	18	9.7	66	20.3
2004	51	36.2	11	5.9	62	18.9
2005	50	34.8	16	8.4	66	19.7
2006	64	43.8	10	5.2	74	21.8
2007	55	36.3	13	6.5	68	19.4
Total	522	37.8	134	7.2	656	20.3

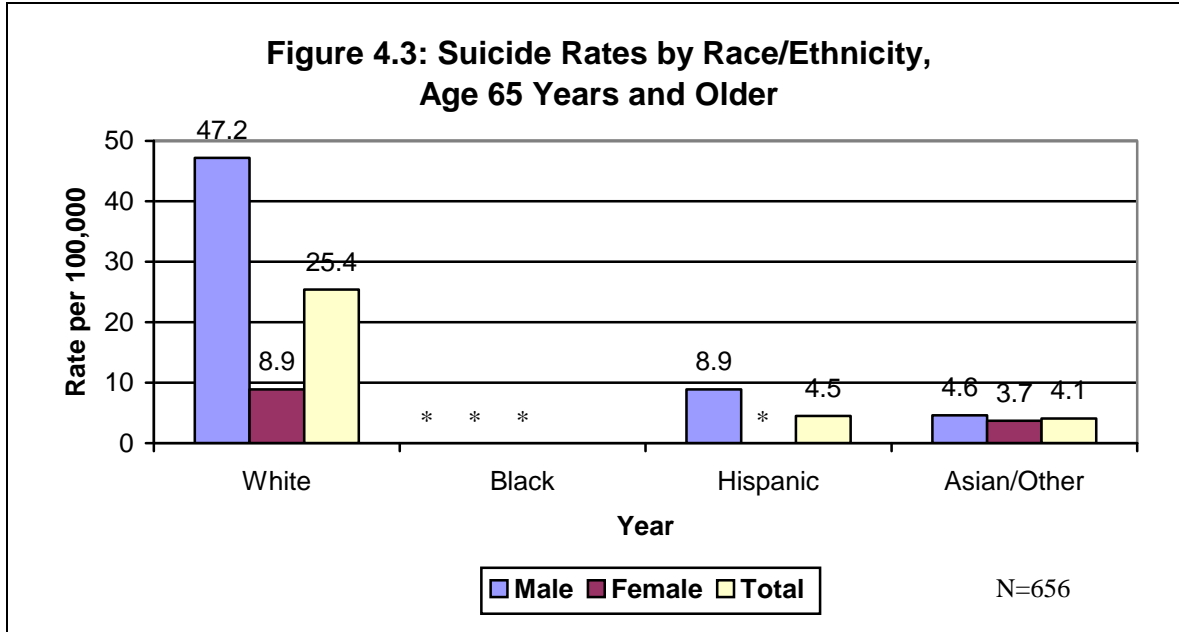
[†]Rate per 100,000

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 – 2007

Section 4: Older Adults

Race/Ethnicity

Suicide among older adults in San Diego County is largely a White male phenomenon. Almost 80% of suicides in this age group were male, and 95% were White.



Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner Database, 1998 – 2007

*Rates not calculated for fewer than five incidents

Note: Race/ethnicity unknown for three cases.

Table 4.2: Suicides by Race/Ethnicity and Gender, Age 65 Years and Older

Race/ Ethnicity	Male		Female		Total	
	Number	Rate [†]	Number	Rate	Number	Rate
White	497	47.2	123	8.9	620	25.4
Black	2	*	1	*	3	*
Hispanic	14	8.9	3	*	17	4.5
Asian/Other	6	4.6	7	3.7	13	4.1
Unknown	3	--	0	--	3	--
Total	522	37.8	134	7.2	656	20.3

[†]Rate per 100,000

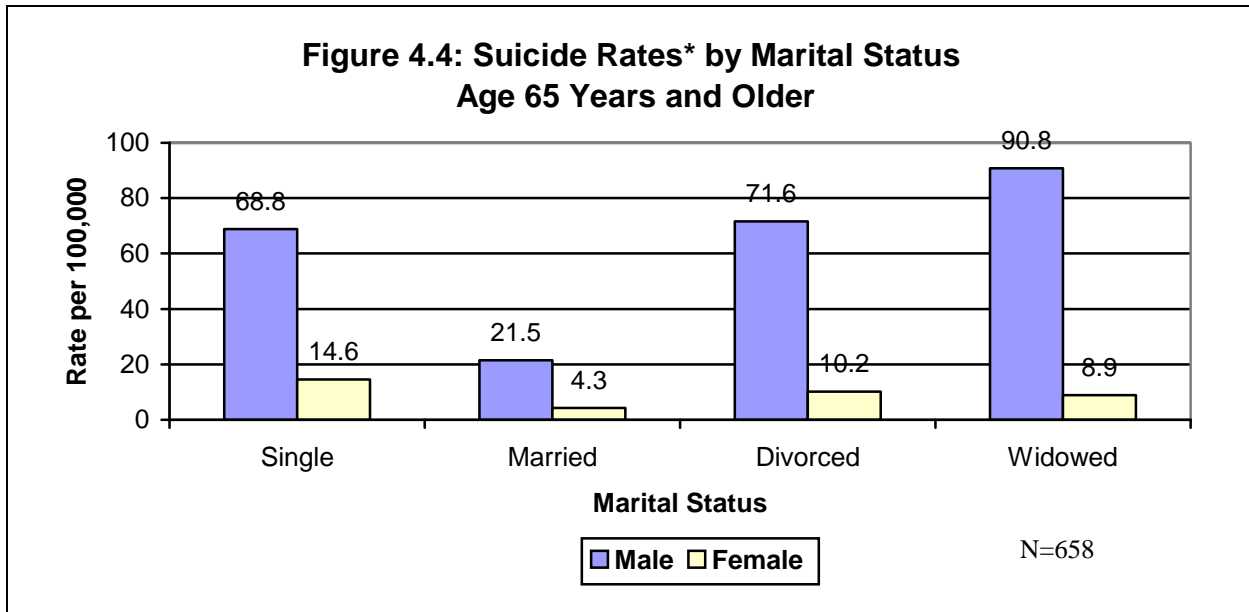
Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 – 2007

*Rates not calculated for fewer than five incidents

Section 4: Older Adults

Marital Status

Among older adults (65 and up), those who were divorced, widowed, or single had a higher risk of suicide than those who were married. For example, a divorced male in this age group was over three times more likely to commit suicide than a married male, and widowed men had a suicide rate four times higher than married men. Note that this is in addition to an already high rate of suicide in this age group.



*Estimated rates per 100,000, based on 2000 US Census marital status distribution

Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Note: Marital status unknown for 20 cases

**Table 4.3: Suicides by Marital Status and Gender
Age 65 Years and Older**

Marital Status	Male		Female		Total	
	Number	Rate†	Number	Rate	Number	Rate
Single	44	68.8	9	14.6	53	42.2
Married	222	21.5	36	4.3	258	13.7
Divorced	80	71.6	21	10.2	101	31.8
Widowed	158	90.8	66	8.9	224	24.4
Unknown	18	--	2	--	20	--
Total	522	37.8	134	7.3	656	20.3

†Estimated rates per 100,000, based on 2000 US Census marital status distribution

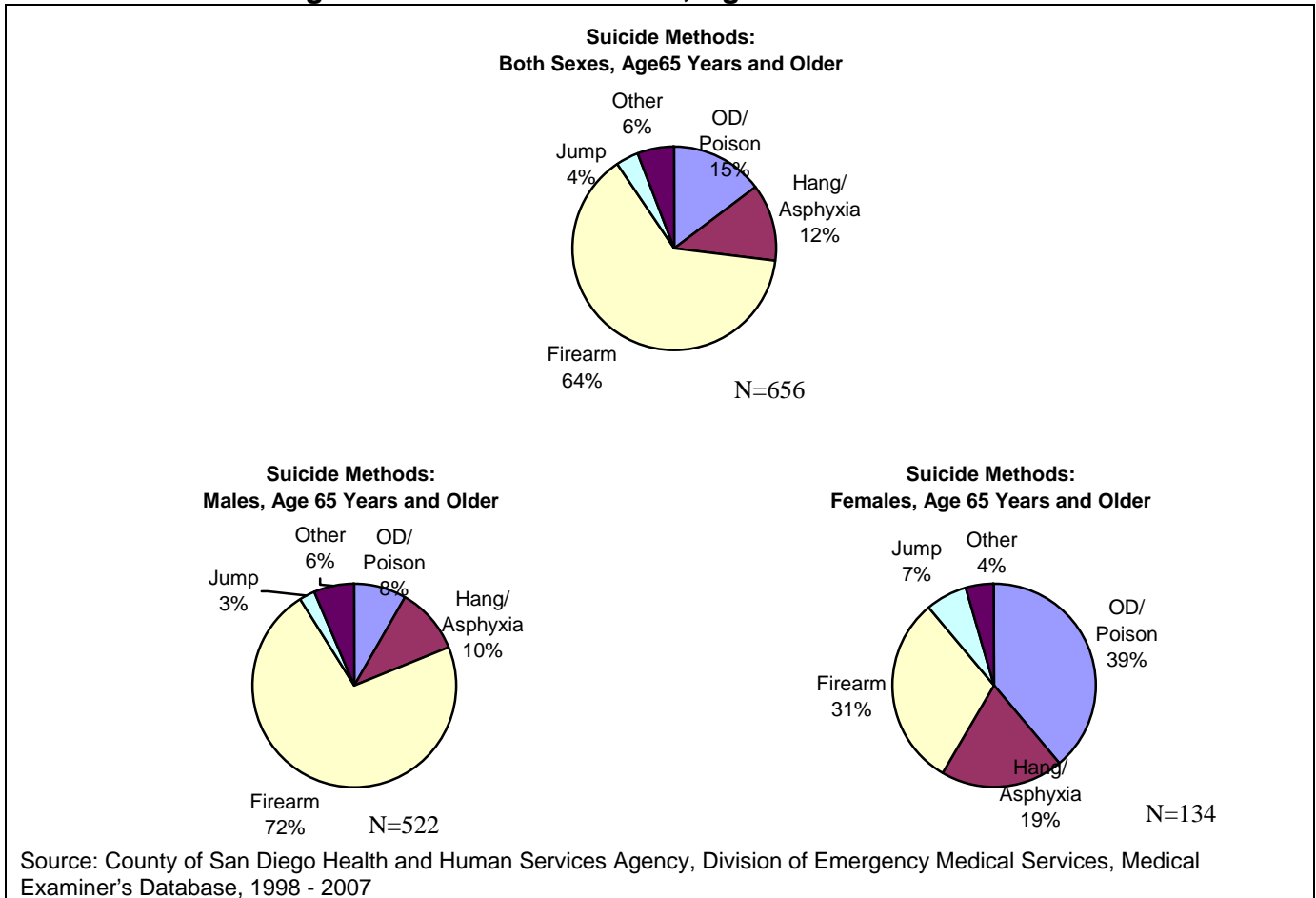
Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Section 4: Older Adults

Suicide Methods

Firearms again were by far the leading method of completed suicide among older adult men, accounting for 72%. Among older women, however, only 31% were attributed to firearms, with 39% choosing drugs/poisons.

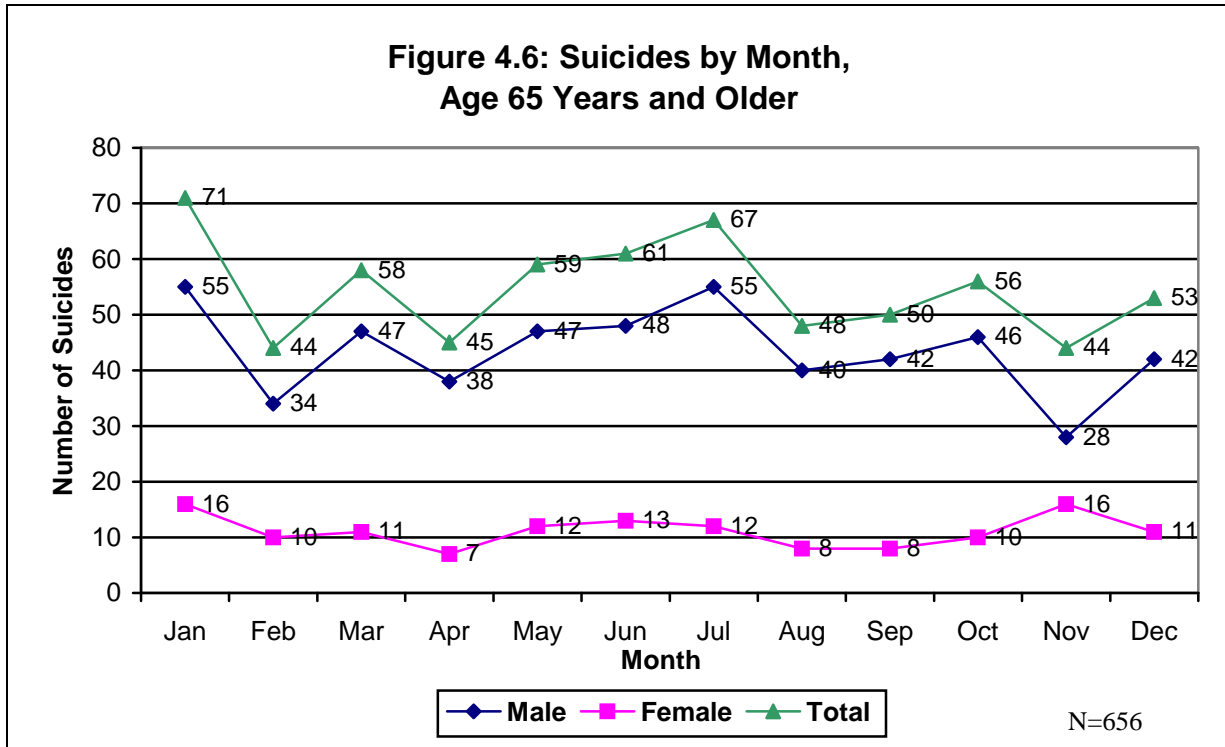
Figure 4.5: Suicide Methods, Age 65 Years and Older



Section 4: Older Adults

Month

January had the highest number of suicides per month among older adults, while February and November had the fewest over this time period.



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

Section 4: Older Adults

Toxicology by Gender

Toxicology testing was performed less often in suicide victims aged 65 and older than for younger age groups, ranging from 73 to 77% of cases tested for different drugs of abuse. Older adults were much less likely than younger suicide victims to test positive for drugs of abuse, with the most commonly encountered substances for this age group being antidepressants (34.6% positive), benzodiazepines (24.4% positive), and opiates (23.1% positive).

Table 4.4: Toxicology Results by Gender, Age 65 Years and Older, 2000 - 2007

Substance	Male				Female				Total			
	Tested		Positive		Tested		Positive		Tested		Positive	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Alcohol $\geq 0.08\%$ ¹	366	89.1%	26	7.1%	95	90.5%	12	12.6%	461	89.3%	38	8.2%
Alcohol $< 0.08\%$ ¹	366	89.1%	17	4.6%	95	90.5%	2	2.1%	461	89.3%	19	4.1%
Methamphetamine	293	71.3%	0	0.0%	83	79.0%	0	0.0%	376	72.9%	0	0.0%
Opiates	295	71.8%	55	18.6%	86	81.9%	33	38.4%	381	73.8%	88	23.1%
Cocaine metabolites	293	71.3%	2	0.7%	83	79.0%	0	0.0%	376	72.9%	2	0.5%
Cannabinoids ²	166	75.5%	0	0.0%	43	86.0%	0	0.0%	209	77.4%	0	0.0%
Benzodiazepines ²	166	75.5%	36	21.7%	43	86.0%	15	34.9%	209	77.4%	51	24.4%
Antidepressant ³	114	27.7%	35	30.7%	45	42.9%	20	44.4%	159	30.8%	55	34.6%

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2000 – 2007

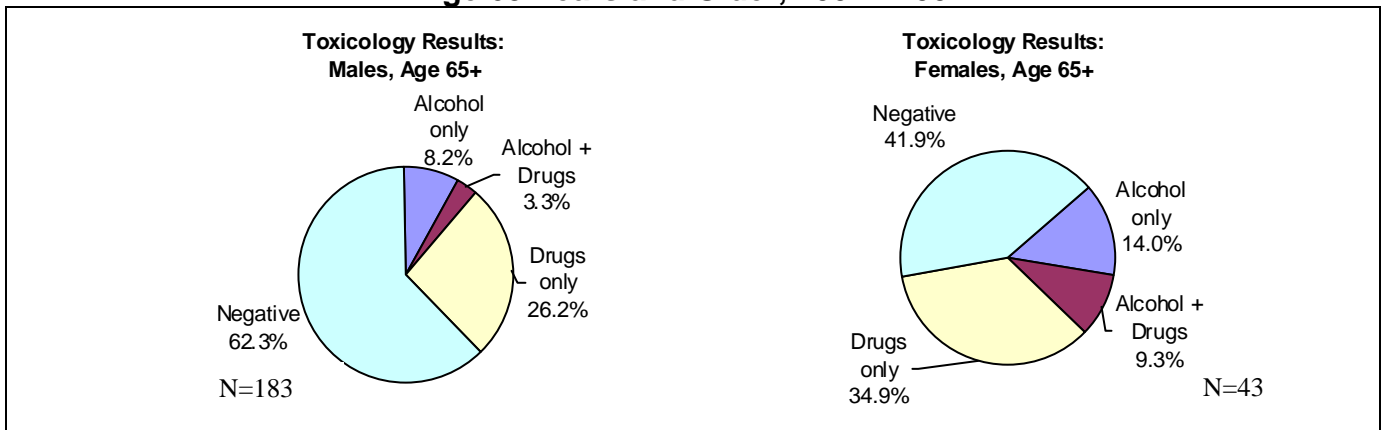
¹ In some cases, some or all of the alcohol detected could be a result of decomposition rather than exogenous use of alcohol

² Results for cannabinoids and benzodiazepines are from 2004 – 2007

³ In suicides by traumatic or asphyxial methods, testing for antidepressants is unlikely to be performed unless the decedent is known or thought to have been prescribed antidepressant medications

Positive toxicology results for alcohol and/or drugs of abuse were found in 37.7% of male and 58.1% of female suicide victims age 65 and older. The actual number with positive toxicologies for any substance may be considerably higher, since this does not include many prescription and over the counter drugs that are not part of the routine toxicology screen.

Figure 4.7: Toxicology Results for Alcohol and Drugs of Abuse by Gender, Age 65 Years and Older, 2004 - 2007



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2004 – 2007

Note: "Drugs of Abuse" includes methamphetamine, opiates, cocaine, cannabinoids, and benzodiazepines.

This graph does not include antidepressants

Section 4: Older Adults

Toxicology by Suicide Method

Opiates, benzodiazepines, and antidepressants were highest in older adults who died from OD/Poisoning suicides, although hang/asphyxia and firearm suicides also had relatively high proportions of positive tests for these substances, unlike younger suicide victims.

Table 4.5: Toxicology Results by Suicide Method, Age 65 Years and Older, 2000 – 2007

Suicide Method	Substance	Tested		Positive	
		No.	%	No.	%
OD/Poison	Alcohol $\geq 0.08\%$ ¹	67	84.8%	7	10.4%
	Alcohol $< 0.08\%$ ¹	67	84.8%	1	1.5%
	Methamphetamine	70	88.6%	0	0.0%
	Opiates	72	91.1%	31	43.1%
	Cocaine metabolites	70	88.6%	2	2.9%
	Cannabinoids ²	35	92.1%	0	0.0%
	Benzodiazepines ²	35	92.1%	16	45.7%
	Antidepressant ³	45	57.0%	25	55.6%
Hang/Asphyxia	Alcohol $\geq 0.08\%$ ¹	54	90.0%	2	3.7%
	Alcohol $< 0.08\%$ ¹	54	90.0%	4	7.4%
	Methamphetamine	46	76.7%	0	0.0%
	Opiates	47	78.3%	11	23.4%
	Cocaine metabolites	46	76.7%	0	0.0%
	Cannabinoids ²	25	83.3%	0	0.0%
	Benzodiazepines ²	25	83.3%	7	28.0%
	Antidepressant ³	24	40.0%	6	25.0%
Firearm	Alcohol $\geq 0.08\%$ ¹	296	90.0%	24	8.1%
	Alcohol $< 0.08\%$ ¹	296	90.0%	11	3.7%
	Methamphetamine	222	67.5%	0	0.0%
	Opiates	224	68.1%	44	19.6%
	Cocaine metabolites	222	67.5%	0	0.0%
	Cannabinoids ²	124	72.9%	0	0.0%
	Benzodiazepines ²	124	72.9%	22	17.7%
	Antidepressant ³	66	20.1%	14	21.2%
Jump	Alcohol $\geq 0.08\%$ ¹	13	86.7%	2	15.4%
	Alcohol $< 0.08\%$ ¹	13	86.7%	0	0.0%
	Methamphetamine	11	73.3%	0	0.0%
	Opiates	11	73.3%	0	0.0%
	Cocaine metabolites	11	73.3%	0	0.0%
	Cannabinoids ²	8	80.0%	0	0.0%
	Benzodiazepines ²	8	80.0%	1	12.5%
	Antidepressant ³	9	60.0%	4	44.4%
Other	Alcohol $\geq 0.08\%$ ¹	31	93.9%	3	9.7%
	Alcohol $< 0.08\%$ ¹	31	93.9%	3	9.7%
	Methamphetamine	27	81.8%	0	0.0%
	Opiates	27	81.8%	2	7.4%
	Cocaine metabolites	27	81.8%	0	0.0%
	Cannabinoids ²	17	77.3%	0	0.0%
	Benzodiazepines ²	17	77.3%	5	29.4%
	Antidepressant ³	15	45.5%	6	40.0%

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 2000 – 2007

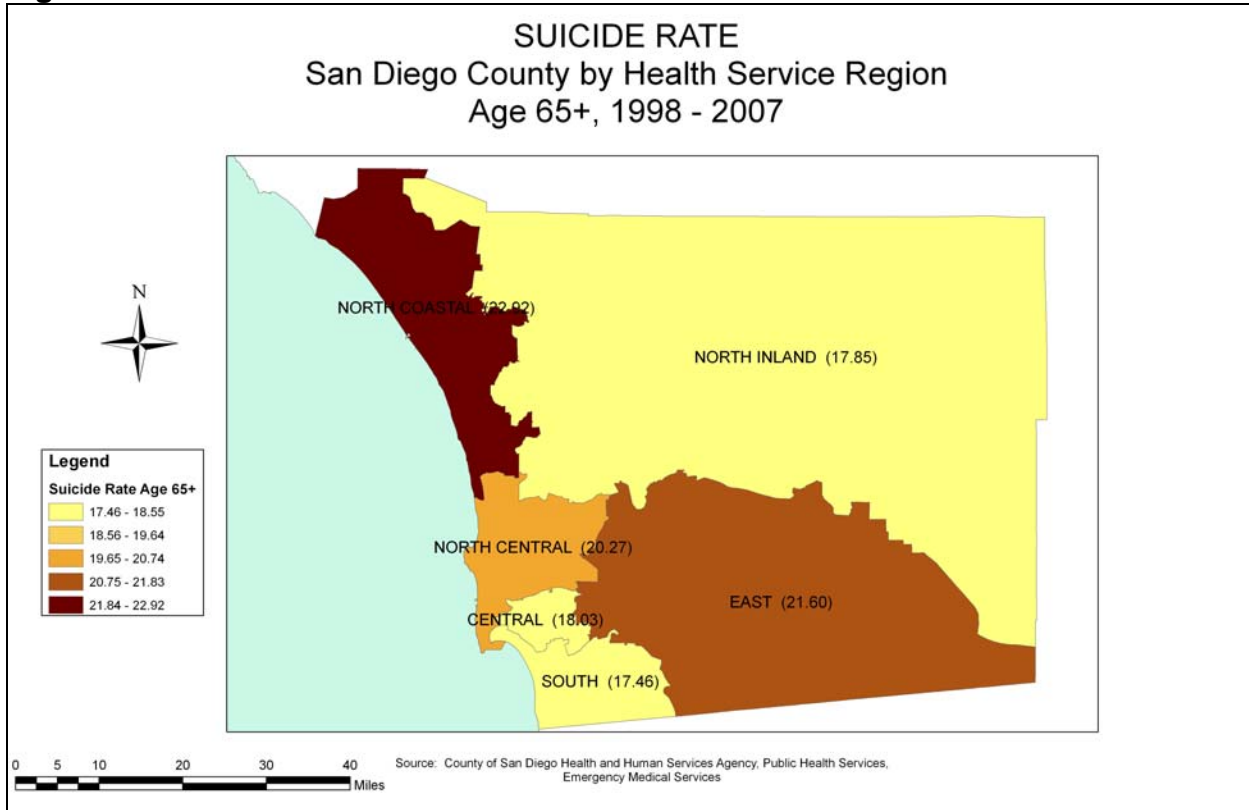
¹ In some cases, some or all of the alcohol detected could be a result of decomposition rather than exogenous use of alcohol

² Results for cannabinoids and benzodiazepines are from 2004 – 2007

³ In suicides by traumatic or asphyxial methods, testing for antidepressants is unlikely to be performed unless the decedent is known or thought to have been prescribed antidepressant medications

Geographic Distribution

Figure 4.8



The suicide rate among older adults was highest in the North Coastal Health Service Region (HSR), which includes Carlsbad, Oceanside, Pendleton, and San Dieguito. The lowest rate was observed in the South HSR.

Table 4.6: Suicides by San Diego County Health Service Region Age 65 Years and Older 1998 - 2007

Health Service Region	Number	Rate [†]
North Coastal	129	22.92
North Central	136	20.27
Central	74	18.03
South	76	17.46
East	112	21.60
North Inland	114	17.85
Unknown	15	--
Total	656	20.27

[†]Rate per 100,000

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, Medical Examiner Database, 1998 - 2007

End Note

Suicide is clearly a major cause of death in San Diego County. It is also a particular burden for certain age, gender, and ethnic groups, as well as certain geographic areas.

Nonetheless, suicide is, in many cases, preventable. At least 90 percent of all people who kill themselves have a mental or substance abuse disorder, or a combination of disorders.¹ Thus, early recognition and treatment of mental illness and substance abuse problems are among the most promising approaches to suicide prevention. So, too, are strategies that target known risk factors, for example, the reduction in access to lethal suicide methods.

Putting these strategies to work requires a major investment in public health action, which in turn requires significant public awareness of the need for change. This report aims to be one means to help raise the public awareness necessary to achieve that end and reduce the rate of suicide in San Diego County.

¹ Healthy People 2010, Volume II (second edition), Objective 18: Mental Health and Mental Disorders. Available at <http://www.healthypeople.gov/Document/pdf/Volume2/18Mental.pdf>

Suicide Prevention Resources

Suicide and Crisis Hotlines Toll-Free/ 24hours/ 7 days a week

San Diego County - United Behavioral Health - Access and Crisis Line

- 1-800-479-3339
- (619) 641-6992 TDD (for hearing impaired)

USA National Suicide Hotlines

- 1-800-SUICIDE (1-800-784-2433)
- 1-800-273 TALK (1-800-273-8255)
- 1-877-SUICIDA (1-877-784-2432) (Spanish speakers available)
- 1-866-4-U-TREVOR (1-866-488-7386) (For gay and questioning youth)

Additional References and Resources

CDC Fact Sheets

Understanding Suicide Fact Sheet

<http://www.cdc.gov/ncipc/pub-res/Suicide%20Fact%20Sheet.pdf>

The CDC's 2-page fact sheet is intended for the general public and provides a basic overview of suicide.

Suicide: Facts at a Glance

<http://www.cdc.gov/ncipc/dvp/Suicide/SuicideDataSheet.pdf>

This CDC fact sheet provides up-to-date data and statistics on suicide.

Other Fact Sheets

Facts About Suicide and Depression

<http://www.suicidology.org/associations/1045/files/Depression.pdf>

Elderly Suicide Fact Sheet

<http://www.suicidology.org/associations/1045/files/Elderly2004.pdf>

Older Adults: Depression and Suicide Facts

<http://www.nimh.nih.gov/publicat/elderlydepsuicide.cfm>

Youth Suicide Fact Sheet

<http://www.suicidology.org/associations/1045/files/Youth2004.pdf>

2006 Fact Sheet on Suicide: Adolescents and Young Adults

<http://nahic.ucsf.edu/downloads/Suicide.pdf>

Mental Health Risk Factors Among GLBT Youth

http://www.nami.org/TextTemplate.cfm?Section=Fact_Sheets1&Template=/ContentManagement/ContentDisplay.cfm&ContentID=48112

African American Suicide Fact Sheet

<http://www.suicidology.org/associations/1045/files/AfAMSuicideFactSheet2003.pdf>

Suicide Among Black Americans

<http://www.sprc.org/library/black.am.facts.pdf>

Suicide Among Hispanic Americans

<http://www.sprc.org/library/hispanic.am.facts.pdf>

Suicide Among Asian Americans/Pacific Islanders

<http://www.sprc.org/library/asian.pi.facts.pdf>

Suicide Among American Indians/Alaska Natives

<http://www.sprc.org/library/ai.an.facts.pdf>

Online Reports and Publications

California Strategic Plan for Suicide Prevention

<http://www.dmh.ca.gov/MHSOAC/docs/Meetings/2008/Feb/CODSPACRecs1107.pdf>

Recommendations of the Suicide Prevention Plan Advisory Committee to the California Department of Mental Health.

National Strategy for Suicide Prevention: Goals and Objectives for Action

<http://www.mentalhealth.org/publications/allpubs/SMA01-3517/>

This U.S. Department of Health and Human Services document provides goals and objectives for a blueprint for the nation to take action to prevent suicide.

Reporting on Suicide: Recommendations for the Media

<http://www.sprc.org/library/sreporting.pdf>

Recommendations to improve the way suicide is covered in the media.

Web Sites

American Association of Suicidology (AAS)

<http://www.suicidology.org>

American Foundation for Suicide Prevention (AFSP)

<http://www.afsp.org>

Community Health Improvement Partners (CHIP)

www.sdchip.org

The Jed Foundation

<http://www.jedfoundation.org>

National Alliance for the Mentally Ill (NAMI)

<http://www.nami.org>

National Institute of Mental Health

<http://www.nimh.nih.gov>

National Strategy for Suicide Prevention

<http://www.mentalhealth.org/suicideprevention/>

Mental Health America

<http://www.nmha.org>

Substance Abuse and Mental Health Services Administration

www.samhsa.gov

Suicide Prevention Action Network USA (SPAN USA)

<http://www.spanusa.org>

Suicide Prevention Resource Center (SPRC)

<http://www.sprc.org>

Survivors of Suicide

www.survivorsofsuicide.com

Survivors of Suicide Loss, San Diego

www.soslsd.org

The Trevor Project (for gay and questioning youth)

www.thetrevorproject.org

Yellow Ribbon International Suicide Prevention Program

<http://www.yellowribbon.org>

Yellow Ribbon Suicide Prevention Program/Light for Life Foundation of Southern California

www.yellowribbonsd.org