

## **Suicide in working age males, ages 18-64**

While there are a plethora of suicide prevention activities and research topics regarding suicide among teens, special racial populations and the elderly, there has been relatively little attention devoted to working age people. Historically, 18 – 64 year old adults have exhibited a low suicide rate compared to other groups such as teens, the elderly, etc. As a result, they've traditionally been considered a low risk group and few prevention activities have been targeted at them. "There is a national support system for those under 19, and those 65 and older, but not for people in between, even though the bulk of the burden from suicide is in the middle years of life"(Dr. Eric C. Caine, co-director at the Center for the Study of Prevention of Suicide at the University of Rochester Medical Center)

For the working aged adult, the growing crisis came to light in a study by Hu, Wilcox, Wissow & Baker (2008). Analyzing suicide data from the CDC Web-based Injury Statistics Query and Reporting System (WISQARS), Hu et al found that the overall U.S. suicide rate increased from 1999 and 2005, reversing the decreasing trend observed for 1986 – 1999. Further, Hu et al observed that the increase was largely driven by an increase in completed suicides by middle aged white men and women (ages 40 – 64), with white men constituting the majority of suicides. This cohort is sometimes described as 'baby boomers' (born from 1943 – 1960) and it has been posited that it is this group that is driving the increase in suicide rates for working aged people. It is also worth noting that this is not just a US problem. Canada, Australia, Sweden, Turkey, the United Kingdom and Japan all report an increase in completed middle age suicide, especially by males.

Hu et al postulate that because this group has traditionally been considered as low risk for suicide, preventative programs and efforts have focused almost exclusively on high risk groups such as the young, elderly and specific racial groups. Effectively excluded from suicide prevention, awareness and screening programs has left working age Americans uneducated about suicide risk factors, prevention programs and interventions, which in turn has led to the relative increase in their suicide rate. The increased rate appears even more prominent if, at the same time, the suicide prevention efforts focused on the traditional high risk groups are successful at reducing their suicide rates.

Paralleling the lack of suicide prevention activities and resources for working age people is a lack of research specific to the risk factors, causes and prevention of suicide specific to them. Most recent research traces back to the Hu, Wilcox, Wissow & Baker, 2008 publication. As a result, relatively little research was identified on suicide, risk factors, etc. specific to working age adults, in general, or for 18-64 year old males in particular. It is expected that this new, high-risk population will receive considerable research in the near future, remedying the paucity of resources available at this writing. In the report that follows, general suicide research, signs & symptoms, and preventative measures will be substituted where appropriate and necessary.

### **National and Idaho rates and trends of suicide in working age males ages 18-64**

In 2006, the national suicide rate for working age males ages 18-64 was 22.81 per 100,000 according to data obtained from the Centers for Disease Control and Prevention. The 2006 Idaho rate for working age males was 30.85 per 100,000 – approximately 35% higher than the national rate – making Idaho the 9<sup>th</sup> highest state for suicides in this population. Table 1 below shows the ten states with the highest working male suicide rates. Note that this is not just an Idaho phenomenon: six of the top ten states are in the west or northwest of the United States.

2006, United States Suicide Injury Deaths and Rates per 100,000 All Races, Males, Ages 20 to 64 ICD-10 Codes: X60-X84, Y87.0,*U03				
State	Deaths	Population	Rank	Crude Rate per 100,000
Wyoming	73	160032	1	45.62
Montana	120	289277	2	41.48
New Mexico	212	568193	3	37.31
Alaska	83	224600	4	36.95
Nevada	277	783320	5	35.36
South Dakota	79	232588	6	33.97
Kentucky	411	1265728	7	32.47
Oklahoma	335	1058057	8	31.66
<b>Idaho</b>	<b>134</b>	<b>434300</b>	<b>9</b>	<b>30.85</b>
North Dakota	60	195250	10	30.73
<b>United States</b>	<b>20423</b>	<b>89539251</b>		<b>22.81</b>

Retrieved from the Internet September 25, 2009: [http://webappa.cdc.gov/sasweb/ncipc/mortrate10\\_sv.html](http://webappa.cdc.gov/sasweb/ncipc/mortrate10_sv.html)

Table 1. Idaho’s ranking for completed suicides by working age males ages 20-64 for 2006.

White working age males comprise the majority of completed suicides in working age adults. Figure 1 shows the national suicide trends from the 1950s through 2006 for men aged 25 – 64. The figure shows for white working aged males compared to the other races, and also shows the rise in suicide rate for white working aged males since 2000 that was observed by Hu et al (2008). In addition, Figure 1 shows the decrease in national suicide rates for black, Asian and Hispanic males beginning in the mid-1990s.

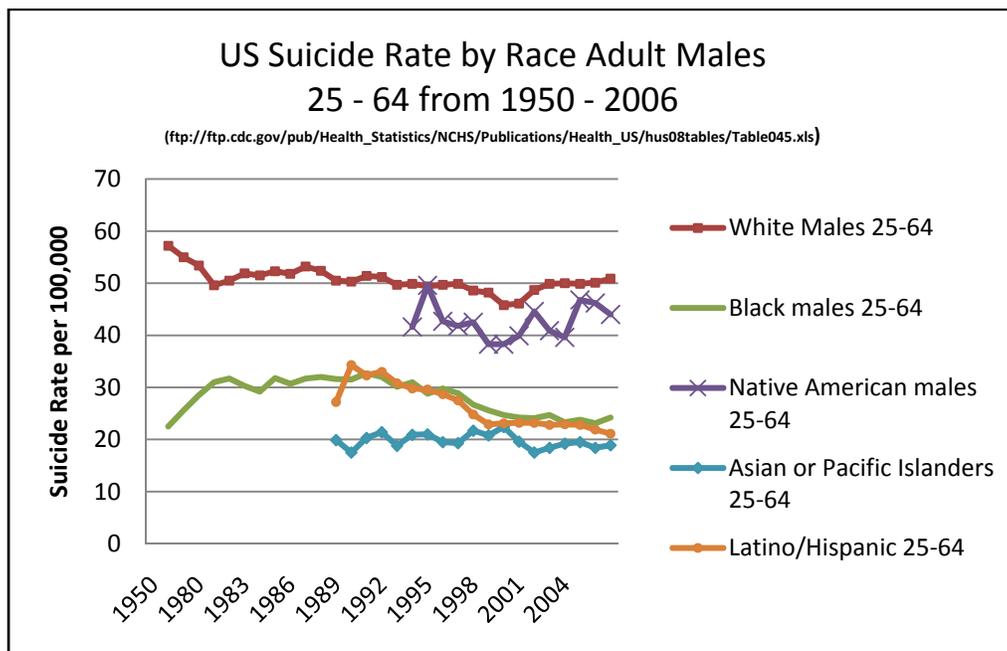


Figure 1. U.S. Suicide rates by race for adult males ages 25–64.

For most populations and age groups, Idaho generally has higher suicide rates than the U.S. average and this holds true for working age males as well. Table 2 and Figure 2 compare Idaho and the US suicide rates per 100,000 for working age male ages 20-64. Note that while the US rate slowly rises from 1999 to 2006, as has been observed by Hu et al (2008) and others, the Idaho rate climbs dramatically from a low of 22.8 per 100,000 in 2000 to a high of 35.64 per 100,000 in 2004. It would be interesting to identify the causes underlying the increase in Idaho suicide rate during that time.

Idaho & US Suicide Deaths, 1999-2006 Males, All Races, ages 20 - 64								
Year	1999	2000	2001	2002	2003	2004	2005	2006
US Rate	21.23	21.29	22.04	22.56	22.42	22.47	22.44	22.81
Idaho Rate	25.46	22.8	26.75	30.77	35.34	35.64	33.15	30.85

Table 2. U.S. and Idaho suicide rates per 100,000 for adult males from 1999 – 2006. Obtained from the Internet on September 29, 2009 using data derived from [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/Health\\_US/hus08tables/Table045.xls](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/Health_US/hus08tables/Table045.xls)

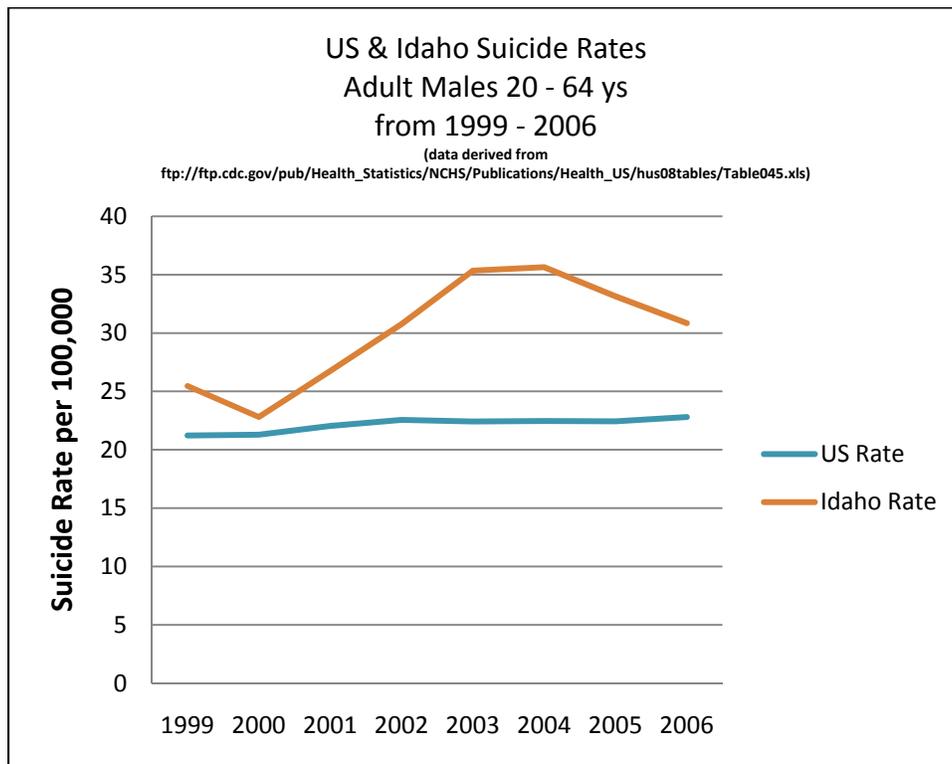


Figure 2. Graphic representation of the data presented in Table 2: U.S. and Idaho suicide rates per 100,000 for adult males from 1999–2006.

Table 3 shows the actual incidence of suicides in Idaho for different strata of working class males from age 20 – 64 from 2003 – 2007. Figure 3 represents the same data graphically. It is interesting to note that the ‘baby boomers’ (45-54, 55-64 year old groups) do not appear to contribute a disproportionate

number of suicides in the Idaho working aged male population. Instead, it is the 24–34 and 35-44 year old working aged males that constitute the majority of completed suicide (46.7% of suicides from 2003-2007). While this works against the hypothesis that the baby boomer effect is the main factor driving the suicide rate for this group in Idaho, it should be noted the baby boomers are not far behind at 41.2%.

Idaho Resident MALE 20-64 Suicide Deaths Age Group by Year of Death 2003-2007					
Age Group	Year of Death				
	2003	2004	2005	2006	2007
20-24	17	15	16	14	22
25-34	30	26	30	30	26
35-44	37	46	34	40	29
45-54	31	38	35	27	35
55-64	28	24	22	21	28
<b>Total</b>	<b>143</b>	<b>149</b>	<b>137</b>	<b>132</b>	<b>140</b>
Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (09/2009)					

Table 3. Working age male suicides by age group and year of death from 2003 – 2007.

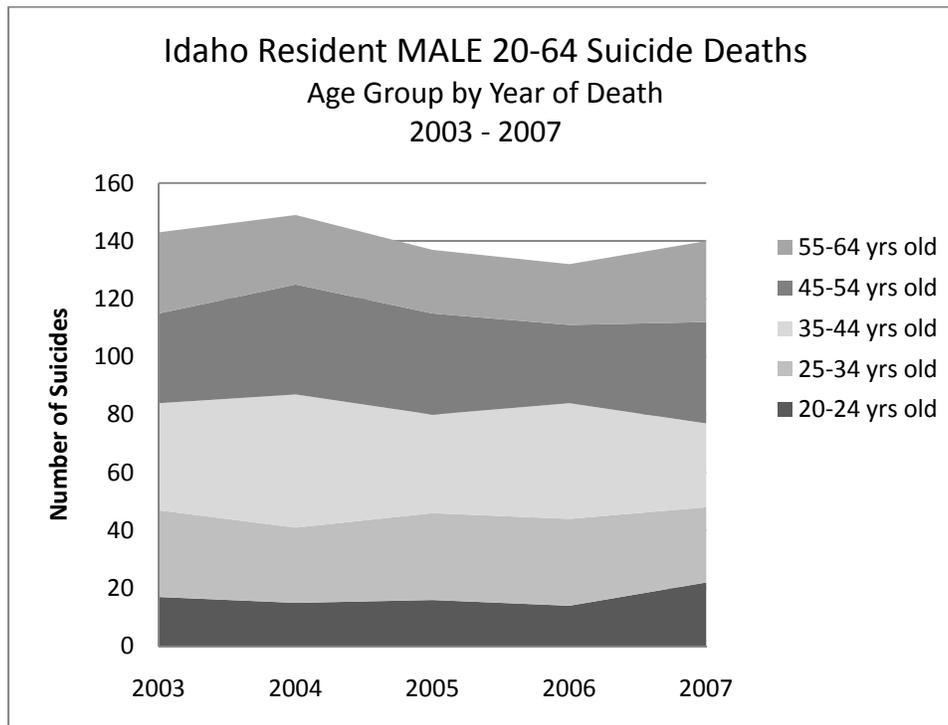


Figure 3. Working age male suicides by age group and year of death from 2003 – 2007. The figure shows the contribution of each category to the overall number of suicides.

**Racial distribution of Idaho working age male suicides**

Table 4 shows the racial distribution of Idaho working age males that completed suicides between 2003 – 2007. Comparison of the racial proportions in the suicide data to Idaho’s US Census 2000-based population estimates (<http://quickfacts.census.gov/qfd/states/16000.html>) finds that Idaho white and Native American males completed suicide disproportionately more (95.4% of suicides vs. 94.6% of the population for whites, and 2.3% of suicides vs. 1.5% of the population for Native Americans). In contrast, black, Asian and Pacific Islanders, and people of Hispanic ancestry committed suicide less than their population proportion. This is consistent with the higher suicide rates traditionally observed for whites and Native Americans in Idaho as well as across the nation.

Idaho Resident Suicide Deaths - Males Aged 18-64								
Year of death by Race and Ethnicity								
2003-2007								
	Total	Race						Hispanic
		White	Black	American Indian	Asian Pacific Islander	Other race	Not stated	
<b>TOTAL, all years</b>	740	706	3	17	4	8	2	37
<b>2003</b>	151	147	-	3	1	-	-	4
<b>2004</b>	157	151	-	4	1	1	-	9
<b>2005</b>	143	133	3	4	-	2	1	7
<b>2006</b>	137	130	-	2	-	4	1	9
<b>2007</b>	152	145	-	4	2	1	-	8

Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (10/2009). ICD-10 Codes for Suicide: X60.0-X84.9 and Y87.0. Note: Race and Hispanic origin of the decedent are reported separately on the Idaho death certificate and should be interpreted with caution.

Table 4. Racial distribution of suicides by Idaho working age males from 2003- 2007.

**Suicide Methods used by US & Idaho working age males**

Figure 4 shows the proportions of methods used in completed suicides for working age males from 2003 – 2006 for the United States as a whole. Figure 5 shows the same information for Idaho working age males for the same period. In both sets of data, the top three suicide methods (firearms, suffocation and poisonings) account for roughly the same proportion of completed suicides – 93% and 96%, respectively – with all other mechanisms comparatively rare. Table 6 presents the numerical data for both figures.

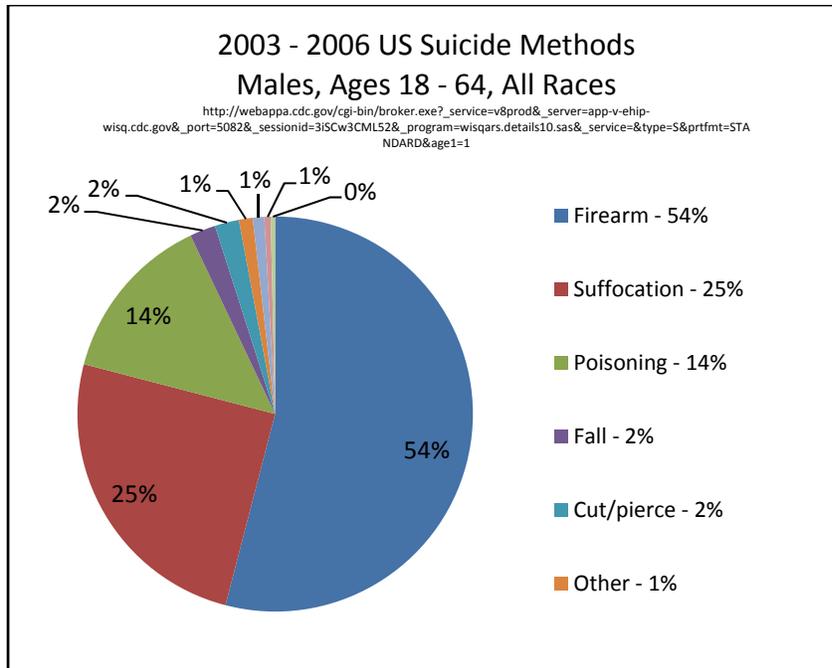


Figure 4. Methods used in completed suicides by working age males ages 18 – 64 in the United States from 2003 – 2006.

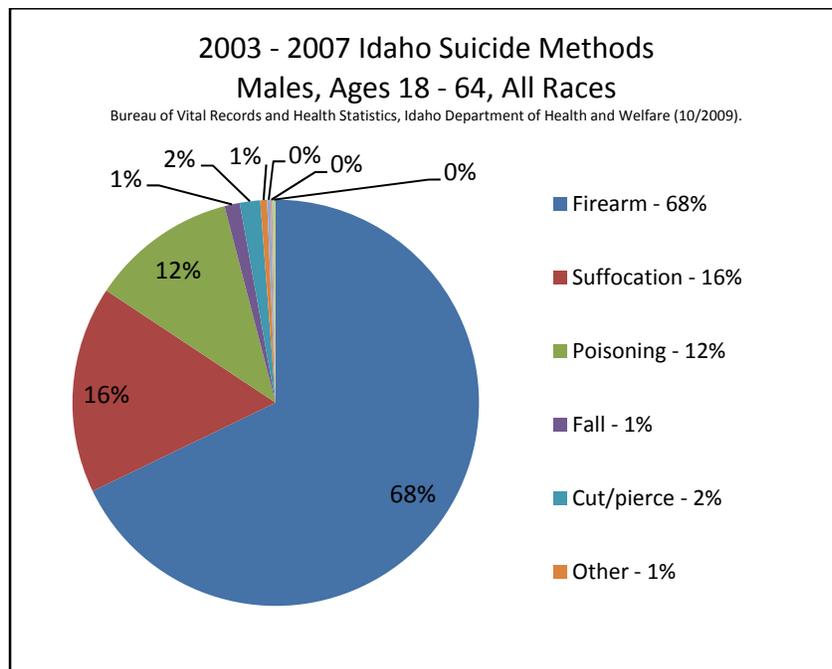


Figure 5. Methods used in completed suicides by working age males ages 18 – 64 in the Idaho from 2003 – 2006.

Suicide Method	2003-2006 US Percent	2003-2007 Idaho Percent	Idaho N
Firearms	54.05%	67.84%	502
Suffocation	25.01%	16.49%	122
Poisoning	13.90%	11.62%	86
Fall	2.11%	1.22%	9
Cut/pierce	1.99%	1.62%	12
Other	1.13%	0.54%	4
Drowning	0.95%	0.27%	2
Fire/burn	0.51%	0.14%	1
Transportation- Related	0.36%	0.27%	2

US data: [http://webappa.cdc.gov/cgi-bin/broker.exe?\\_service=v8prod&\\_server=app-v-ehip-wisq.cdc.gov&\\_port=5082&\\_sessionid=3iSCw3CML52&\\_program=wisqars.details10.sas&\\_service=&type=S&prfmt=STANDARD&age1=1](http://webappa.cdc.gov/cgi-bin/broker.exe?_service=v8prod&_server=app-v-ehip-wisq.cdc.gov&_port=5082&_sessionid=3iSCw3CML52&_program=wisqars.details10.sas&_service=&type=S&prfmt=STANDARD&age1=1)  
Idaho data: Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (10/2009). \*Intentional self-harm by 'Other' includes mechanisms designated as: 'other specified, classifiable,' 'other specified, not classifiable,' or 'other, unspecified.'

Table 6. Methods used in completed suicides by working age males ages 18 – 64 in the Idaho from 2003 – 2006.

In the report that first highlighted the recent increase in white adult suicides, Hu, Wilcox, Wissow & Baker (2008) also identified a shift in suicide methods used by working aged adults. While firearms were still the predominant suicide method, their relative use had decreased since 1999 while suffocation/hanging and poisoning have increased for both genders. A publication by the National Center for Injury Prevention and Control, (2006) also noted that suffocation rates (hangings) increase as suicides using fire arms decrease. However, this trend is not apparent in the Idaho working age male suicide data between 2003 – 2007 (Figure 6).

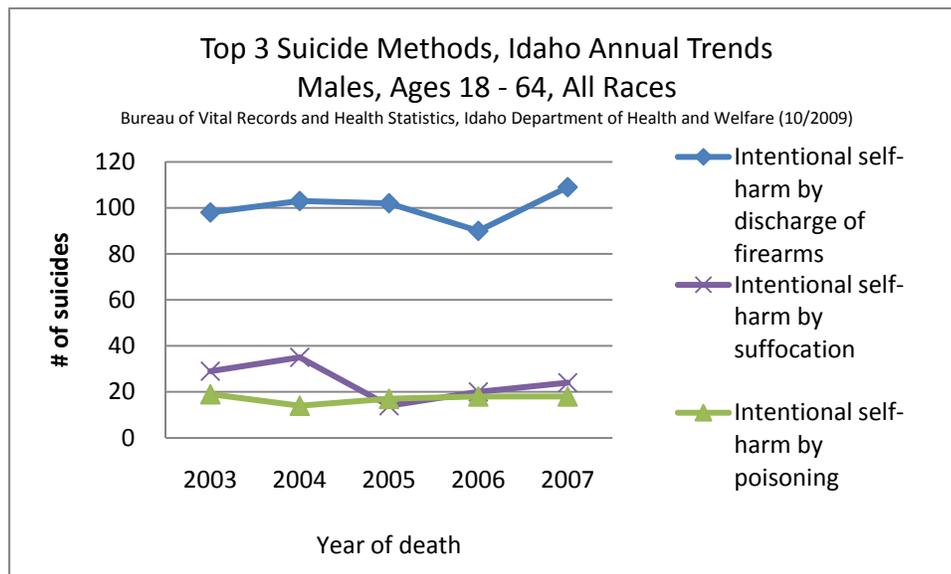


Figure 6. Multiyear trends for suicide by firearms, suffocation and poisoning for Idaho working age males.

**Location of suicidal action leading to completed suicides for Idaho working age males**

Table 7 shows where the suicidal action occurred for Idaho working age males that completed suicide between 2003 – 2007. Note that this is often different than where the person actually died, such as at the hospital.

Idaho Resident Suicide Deaths - Males Aged 18-64 Place of injury by Age Group Five-Year Aggregate, 2003-2007						
	Total	Age Group				
		18-24	25-34	35-44	45-54	55-64
<b>TOTAL</b>	740	123	142	186	166	123
Home	499	78	91	127	116	87
Street, highway	48	12	13	15	4	4
Residential institution, Nursing home	27	4	3	9	7	4
Trade and service area	19	2	5	5	1	6
Farm, Ranch	8	0	4	3	1	0
Industrial, construction area	4	1	0	1	1	1
School, Hospital, other Public institution	4	1	1	1	1	0
Sports and athletics area	2	1	0	0	0	1
Other place	117	24	21	23	29	20
Unknown	2	0	0	0	2	0
Unspecified area	10	0	4	2	4	0

Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (10/2009) ICD-10 Codes for Suicide: X60.0-X84.9 and Y87.0

Table 7. Location of suicidal action leading to completed suicides for Idaho working age males from 2003 – 2007.

**Occupation of Idaho working age males that completed suicide between 2003 – 2007**

Figure 7 shows the occupations of Idaho working age males that completed suicide from 2003 – 2007. Note that although some occupations have a much higher suicide frequency, these data have not been weighted by the total number of people that work in each industry. That is, an occupation with 100,000 employees will have a larger number of suicides than an occupation with 1,000 employees even though the relative rates might be the same. With that caveat, however, targeted suicide prevention efforts at the Construction and Manufacturing occupations appear to be warranted. While there would also be positive benefits from targeting the occupations covered by the Business, Health, Professional, Hotel, Amusement category, the category’s high number of suicides likely stems from combining those professions into a single category. If the number of suicides for each of them were available independently, they would likely fall somewhere between the mining and public administration categories in frequency.

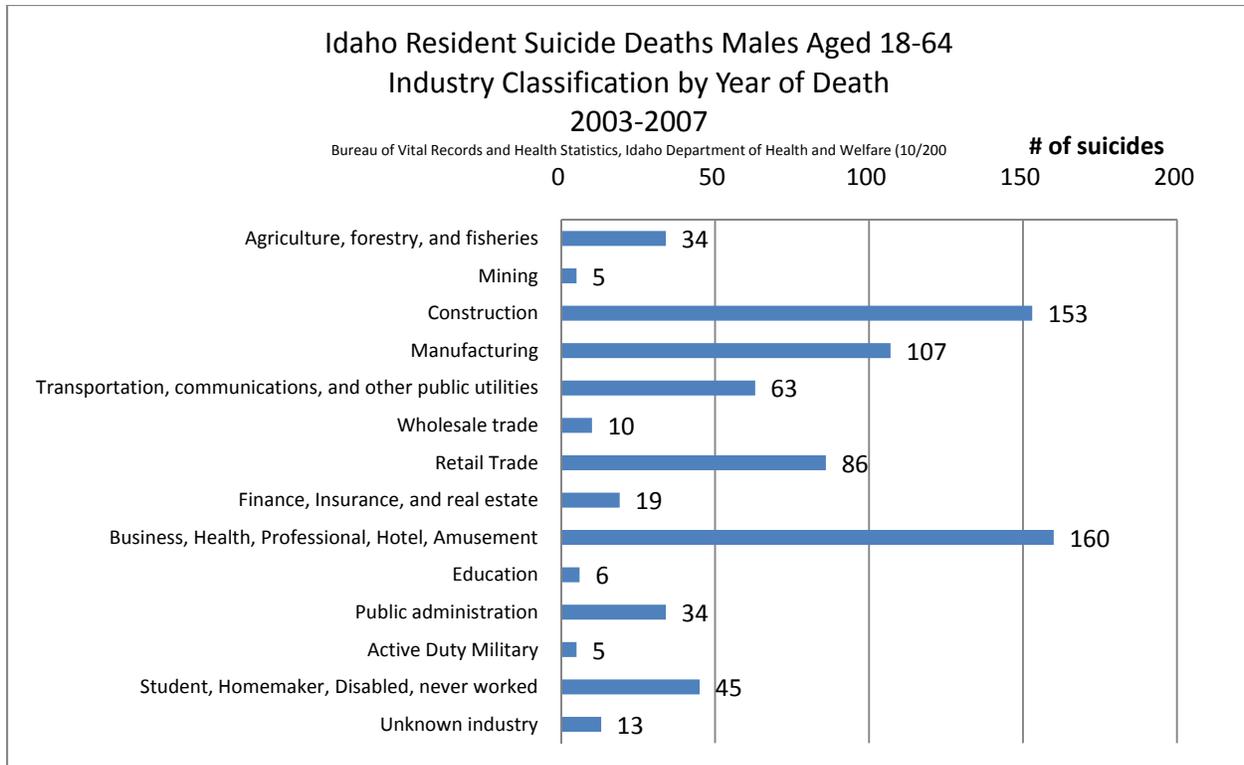


Figure 7. Occupations of Idaho working age males that completed suicides between 2003 – 2007.

Figure 8 shows the five-year suicide trends for the top five occupations represented in Figure 7. Given that the trend for the overall population peaked in 2003 and 2004 and then began to decline (cf. Figure 2), it is interesting that there appears to be little in common between the individual occupation trend lines. Two appear to track the overall trend (Retail Trade and ‘Transportation, Communications, and Other Public Utilities’); Manufacturing runs counter to the overall trend while the ‘Business, Health, Professional, Hotel, and Amusement’ suicides hit their peak a year after the overall trend; and construction is more or less unchanged from year to year. It would be interesting to know how the underlying factors and economic conditions of these industries influence their respective suicide rates. Such knowledge could be used to predict periods where suicide prevention should be increased in response to occupation-related life changes.

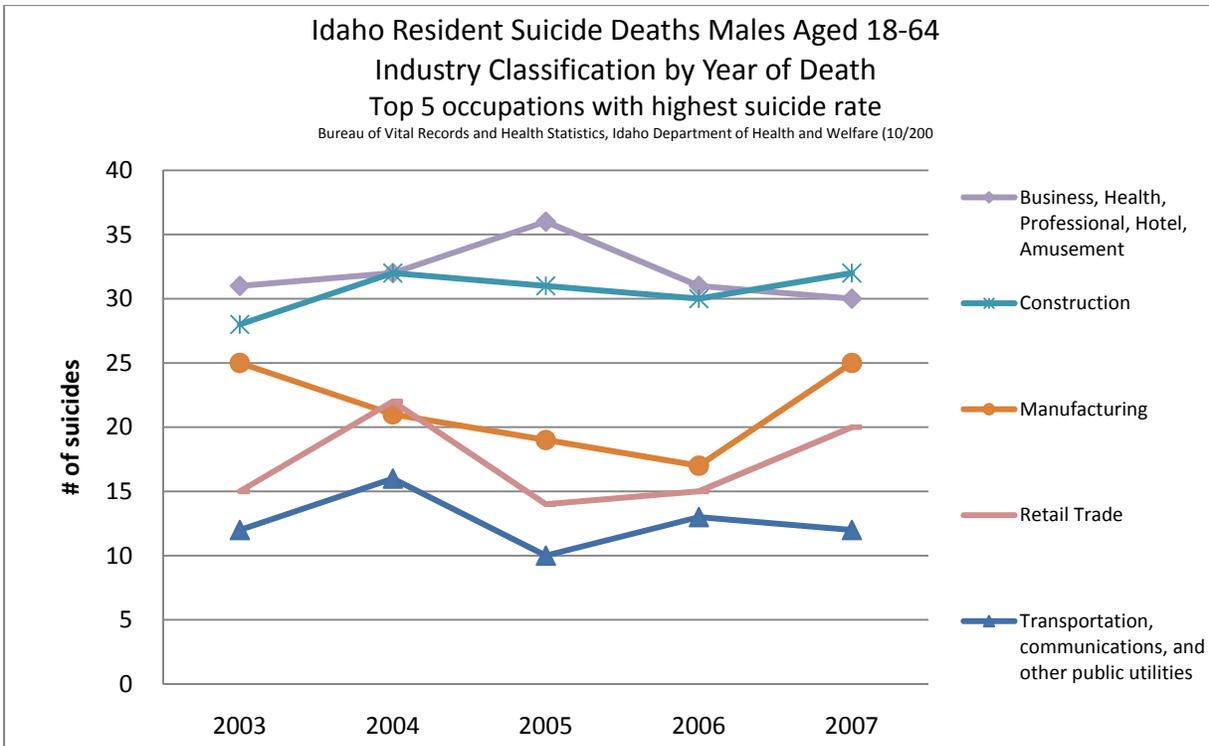


Figure 8. Five-year suicide trends for the top five occupations represented in Figure 6 - Occupations of Idaho working age males that completed suicides between 2003 – 2007.

### Marital status of Idaho working age male suicides

The marital status for Idaho working age males that completed suicide between 2003 – 2007 is shown in Table 8. At first glance, it appears that the completed suicides are roughly equally distributed between the married, divorced and never married categories. However, because there are far more Idahoans in the married than in the divorced or never married categories, the suicide *rate* for married people is much lower. In this regard, Idaho is in line with the research observation that never married and divorced men have higher suicide rates (Kposowa, 2000).

Idaho Resident Suicide Deaths - Males Aged 18-64 by Marital Status Five-Year Aggregate, 2003-2007	
Marital Status	Total # of suicides
Married	275
Married, but separated	10
Never married	225
Divorced	206
Widowed	16
Unknown	8
TOTAL	740

US data obtained from the Internet, November 2, 2009: [http://factfinder.census.gov/servlet/QTTable?\\_bm=&n=&\\_lang=en&q\\_r\\_name=DEC\\_2000\\_SF3\\_U\\_DP2&ds\\_name=DEC\\_2000\\_SF3\\_U&geo\\_id=04000US16](http://factfinder.census.gov/servlet/QTTable?_bm=&n=&_lang=en&q_r_name=DEC_2000_SF3_U_DP2&ds_name=DEC_2000_SF3_U&geo_id=04000US16). Idaho data: Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (10/2009). ICD-10 Codes for Suicide: X60.0-X84.9 and Y87.0

Table 8. Marital status for Idaho working age males that completed suicide between 2003 – 2007.

### Suicide, seasonality and the day of the week for working age male suicides

There is a strong seasonal trend in suicides that peaks in the spring following a low point over the winter, although there is considerable variation depending on country, gender, etc. (e.g., Kim, Lesage, Sequin, Chawky, Vanier, Lipp and Turecki, 2004). In the data for the Idaho working age males, the wintertime seasonal low point is visible, running from November through March (see Figure 9). However, the month with the highest frequency rate for Idaho working age males is July by a substantial margin.

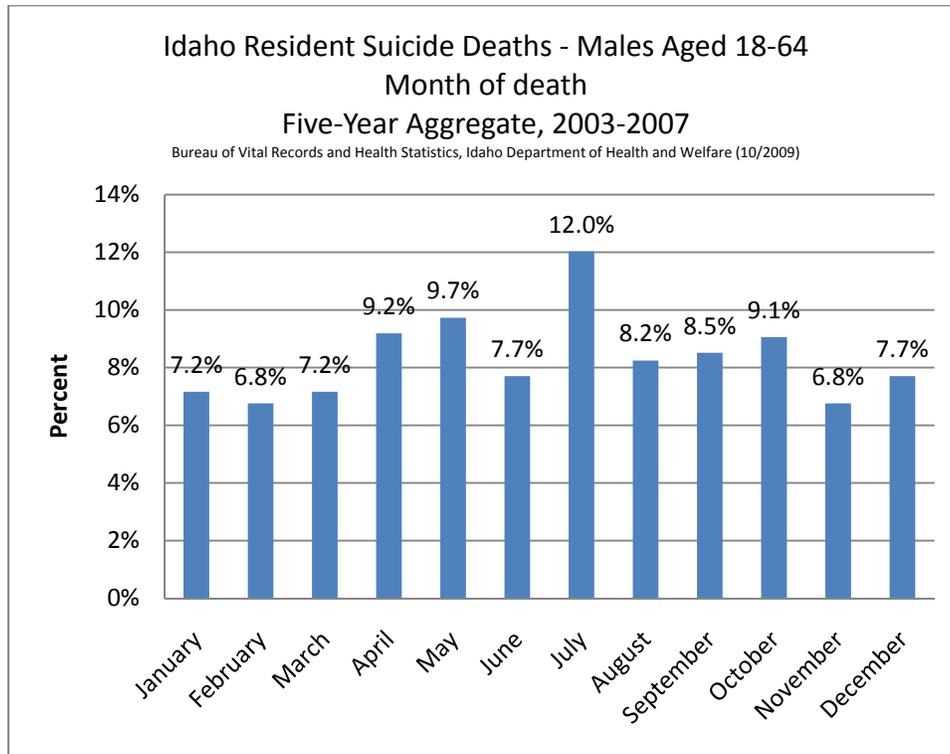


Figure 9. Seasonality of Idaho working age male suicides from 2003 – 2007.

Research has also examined the relationship between the days of the week and suicide rates. Similar to the seasonality research, there is research support for different peak days with some emphasis on Mondays and Wednesdays. Recent work appears to be settling on Wednesday as the day of the week that suicides are most likely to occur (Kposowa and D’Auria, 2009). Figure 10 shows the percentage of suicides completed on each day of the week by Idaho working age males from 2003 – 2007. In the figure, it appears that Friday, Monday and Tuesdays are the peak days for suicide for this population in Idaho.

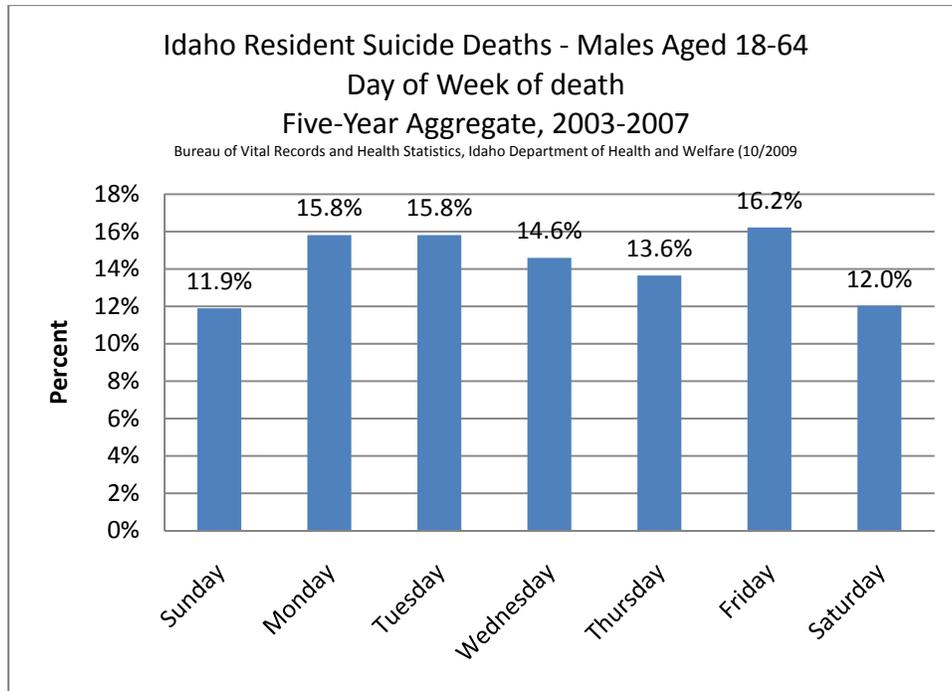


Figure 10. Completed suicides for each day of the week by Idaho working age males from 2003 – 2007.

#### Gender issues in working age male suicide

In general, the gender issues for adult males are the same as for adolescent males. Men tend to downplay their feelings, don't discuss them easily and are less likely to seek help or be diagnosed for depression. In addition, men tend to choose immediate, final and generally violent means to commit suicide that leave little or no time for discovery and intervention. Although no overarching model for working age male suicide was found in the literature, a number of risk or circumstantial factors were identified that may be unique to or play an extra strong role with this population.

- Women are diagnosed with depression far more often than men and receive mental health and medical treatment, whereas men often slip past depression screenings and are often diagnosed in context of other medical treatment (Olliffe and Borttorff, 2008; Rabinowitz, 2008).
- Men, especially middle age men are often unwilling to seek treatment for depression, instead trying to tough it out. "We're supposed to be strong," "We're supposed to handle all our problems. Nothing's supposed to bother us or get to us. We're supposed to work and do our own thing" (Cochran, 2007).
- Economic crises may play a role in adult suicide, particularly if the primary wage earner loses their job. For example, Berk, Dodd, and Henry (2006) found that working age male suicides increase with down turning economic trends. Oddly, most work on suicide and economic factors has been done in other countries. Berk et al, for example, was based on Australians. It is anticipated that comparable research results will be available for United States in the near future.

- The traditional gender role of being the main provider for a family may impose a heavier impact when that role changes through loss of job or changes in the family, such as divorce, loss of custody, etc. "A lot of guys get their identity through work, being a good dad and good husband, and sometimes those things are most vulnerable in the fifth and sixth decade" (Oliffe, 2007; Rabinowitz and Cochran, 2000).
- Suicide is often seen as a manly choice, made to preserve honor, which may explain why some men respond to job loss or economic ruin by taking their lives. (Canetto, 2006).
- Alcohol use and dependence often play a specific role in suicide and the risk becomes higher late in the disease process when the heavy consumption has taken its toll on the male's family, work and physical health. For the working age male, this period coincides roughly between middle age and retirement (Frances & Hales, 1988).
- The incidence, and perception of seriousness, of severe physical health problems rise in middle age, with a concomitant rise in suicide for both genders (Duberstein, Conwell, Conner, Eberly, and Caine, 2004)
- Declining testosterone levels in middle-age may play a role due to its association with lower quality of life ratings, especially if the masculinity of youth was an important self-concept for the aging male (Yasuda, Furuya, Yoshii, Ide, Muto, & Horie, 2007). Compounding this problem, some drug therapies for depression can threaten the depressed male's male ego even further, as some anti-depressants decrease the male libido (Rabinowitz and Cochran, 2000).

### **Signs & Symptoms of working age males**

Similar to the gender issues that may underlie working age male suicides, the signs and symptoms of suicide for all populations are also applicable to working age males. For example, previous attempts, talking about suicide, researching suicide methods and giving away of prize possessions have the same crisis intervention implications for working age males as for other populations. However, there are some signs, symptoms or causal factors have been identified as especially important for working age males.

- Signs and symptoms identified for working age males
  - Recent divorce or separation, especially involving loss or changes in custody of children
  - Loss or change of career or position
  - Recent discovery of or dramatic worsening of a grave health issue
  - Discharge from active military service, esp. following combat role
- General signs and symptoms that may also be seen in working age males
  - Previous suicide attempts
  - Talking about suicide, or making a plan
  - Statements of not being missed if dead
  - Expressions of hopelessness, helplessness and anger at oneself or the world
  - Themes of death or depression in conversation, writing, reading or art
  - Strong personality changes, withdrawal, aggressiveness or moodiness

- Use or increased use of drugs and/or alcohol
- Recent loss of a friend or family member through death or suicide
- Giving away prized possessions

### **Prevention**

Suicide prevention for the working age male population should take the same form as for other populations: awareness/signs and symptoms trainings, depression and suicidality screenings, help seeking destigmatization, and where actual intent is known, means reduction. The combination of these methods has proven effective with other populations. Working age males simply need to receive recognition as a high-risk group and resources allocated so that they can be included in the already successful suicide prevention methods in use today.

### **Intervention**

Beyond intervention successful for other populations, such as the combination of short antidepressants and psychotherapy, means reduction, etc., intervention can work by addressing the underlying stressors. Things such as financial assistance or counseling, grief counseling for health crises, fairer child custody laws and specific support for veterans could all play important roles in reducing the incidence of suicide for working age males in Idaho.

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