Suicide: Recent Data and Prevention Efforts

Phoenix Area
Indian Health Service
Integrated Behavioral Health
Suicide Rates for Males and Females by Race/Ethnicity in the United States (2016)

Data Courtesy of CDC

<table>
<thead>
<tr>
<th>Female Race/Ethnicity</th>
<th>Male Race/Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI/AN**</td>
<td>AI/AN**</td>
</tr>
<tr>
<td>White/ Non-Hispanic</td>
<td>White/ Non-Hispanic</td>
</tr>
<tr>
<td>Hispanic*</td>
<td>Hispanic*</td>
</tr>
<tr>
<td>Black</td>
<td>Black</td>
</tr>
<tr>
<td>Asian/Pi***</td>
<td>Asian/Pi***</td>
</tr>
</tbody>
</table>

Suicide Rates (per 100,000)

*All other groups are non-Hispanic or Latino / **AI/AN = American Indian / Alaskan Native / ***Pi = Pacific Islander
Suicide Rate by Age for American Indian/Alaska Native Compared to United States (Average 2000–2016)

Source: WISQARS Fatal Injury Reports, 1999-2016
FIGURE 1. Suicide rates* among persons aged ≥10 years, by county urbanization level† — United States, 2001–2015§

COUNTY POPULATION
- 10,000-50,000
- small=50,000-250,000
- medium=250,000-1,000,000
  (all size communities)
- 1,000,000 and up

* Per 100,000 residents aged ≥10 years, age adjusted to the 2000 U.S. standard population.
Suicide was more prevalent in URBAN communities before 1980

FIGURE 2. Suicide rates* for selected characteristics among persons aged ≥10 years, by county urbanization level — United States, 2001–2015

Large metropolitan

Medium/small metropolitan

Nonmetropolitan/rural

Year

Age-adjusted rate

Sex

Female

Male

Race/Ethnicity

Large metropolitan

Medium/small metropolitan

Nonmetropolitan/rural

Year

Age-adjusted rate

White-NH

Black-NH

Al/AN-NH

Asian/PI-NH

Hispanic

MMWR October 6, 2017 Vol. 66 No. 18
What might contribute to the gradual proportional increase in rural suicides over the last 50 years?
• What factors might result in the LOWER suicide rate for AI/AN people than for whites living in large metropolitan areas?
Two studies addressing suicide: a large military population and a multi-center ED population

- the Air Force study is widely cited as a groundbreaking prevention effort with primary, secondary, and tertiary components
  - mobilized a top-down “culture change”
- the ED-SAFE study focuses on an at-risk emergency department population to focus on recurring suicidal risk/behavior
Air Force suicide prevention initiative: leadership-driven culture change, funded resources, interpersonal support

• US Air Force suicide prevention program was implemented 1996-7
• eleven policy initiatives, each linked to specific action and tracking indicators
• intended to reduce risk factors and enhance protective factors

Air Force suicide prevention initiative: leadership-driven culture change, funded resources, interpersonal support

<table>
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<tr>
<th>Initiatives and mandated policy</th>
<th>Action</th>
<th>Tracking indicators</th>
</tr>
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<tbody>
<tr>
<td>I Leadership involvement (AFI 44-154 Suicide and Violence Awareness and Education and Training)</td>
<td>Leader awareness education and training (squadron commander courses)</td>
<td>Messages from USAF Chief of Staff delivered every 3-6 months to all installation commanders reminding them of importance of suicide prevention and encouraging them to actively promote protective factors, identify risk factors, and encourage personnel not to fear seeking help</td>
</tr>
<tr>
<td>II Dealing with suicide through professional military education (AFI 44-154 Suicide and Violence Awareness and Education and Training)</td>
<td>Incorporate suicide prevention into professional military education curriculums through required training</td>
<td>Tracking of training, assessment of skills and knowledge of basic suicide and violence risk factors, intervention skills, and referral procedures for people potentially at risk</td>
</tr>
<tr>
<td>III Guidelines for commanders: use of mental health services AFPAM 44-160 The Air Force Suicide Prevention Program</td>
<td>Improve referrals of active duty members for evaluation of mental health through emphasising that commanders and mental health professionals are partners in improving duty performance</td>
<td>Annual briefings to commanders included resources for referral to mental health, substance abuse, family advocacy, or emergency evaluation (as of 2003, resources accessible through AF website for commanders)</td>
</tr>
<tr>
<td>IV Community preventive services (AF Manual 168-695)</td>
<td>Increase preventive functions performed by mental health personnel</td>
<td>Provide one full time equivalent member of staff for community based preventive services at every mental health work centre</td>
</tr>
<tr>
<td>V Community education and training (AFI 44-154 Suicide Prevention Education and Community Training)</td>
<td>Required training at two levels for non-professionals in basic suicide factors, intervention skills, and referral procedures for people potentially at risk</td>
<td>Non-supervisory “buddy care” training for all personnel and leadership/supervisory training for unit gatekeepers</td>
</tr>
</tbody>
</table>

Air Force suicide prevention initiative: leadership-driven culture change, funded resources, interpersonal support

Air Force suicide prevention initiative: outcomes

• in the first 5 years, suicide **decreased by 33%** and...
  • homicide decreased **51%**
  • ‘severe’ family violence decreased **54%**
  • accidental death decreased **18%**
  • on follow-up, during years of less rigorous implementation the suicide rate increased

Knox K et al. The USAF Suicide prevention Program: Implications for Public Health Policy. Am J Pub Health May 2010; 100(12):2457-63
Suicide in the context of other trauma

compared to all other racial/ethnic groups, Arizona American Indians living on or off tribal lands have:

- **two** times higher rates of any traumatic injury
- **three** times higher rates of suicide
- **nine** times higher rates of homicide

Arizona 2013 American Indian Trauma Report released April 15, 2016
ALL trauma rate per 100,000 Arizona residents

Arizona 2013 American Indian Trauma Report released April 15, 2016
Factors that differentiate AI/AN suicide

• alcohol intoxication twice as likely at time of death
  • AI/AN males: 50% (all US males 25%)
  • AI/AN females: 40% (all US females 20%)
• age of highest risk
  • Caucasian males: ages 85 and older
  • AI/AN males: ages 18-24

Kaplan M et al. Economic contraction, alcohol intoxication and suicide: analysis of the National Violent Death Reporting System
• In white males, suicide peaks in the very elderly; in AI/AN males suicide peaks between 15 and 24 years. What factors might contribute to this difference?
AI/AN community suicide rate study

In an analysis of risk factors, protective factors, and individual characteristics from studies on suicide in different AI/AN communities, community-level factors (NOT individual factors such as diagnosis) were found to explain the largest proportion of the variance in suicide outcomes.

Community factors associated with lower suicide risk (Yup’ik teen study)

• opportunities for participation and contribution

• parents who nurture and regulate children’s friendships

• family and friends perceived as competent to help solve problems

• members engage in self-reflection, develop a personal life narrative

Other research: factors associated with higher risk

• severity of **historical trauma**
• lack of cultural continuity as measured by adequacy of:
  • self-government, land claims processing
  • police and fire services
  • health and education services
  • cultural facilities


Alcantra C and Gone J. Reviewing Suicide in Native American Communities: Situating Risk and...
WHO: Commission on Social Determinants of Health

CSDH Conceptual Framework

- Socioeconomic & Political Context
  - Governance
  - Policy
  - Macroeconomic
  - Social
  - Health
  - Cultural and Societal norms and values

- Social Position
  - Education
  - Occupation
  - Income
  - Gender
  - Ethnicity / Race

- Health Care System
  - Material Circumstances
    - Social Cohesion
    - Psychosocial Factors
    - Behaviours
    - Biological Factors

- Distribution of Health and Well-being

Social Determinants of Health and Health Inequities

Primary suicide prevention

- evidence-based life skills curricula
  - strengthen protective factors in the individual
  - help build emotional regulation, problem-solving
  - American Indian Life Skills (AILS) : 13-56 lessons, over about 30 weeks, is updated format of Zuni Life Skills Development

- reduce community risk factors, increase community protective factors
Secondary suicide prevention

• screening, outreach: primary care, schools, health fairs
  • identify those at risk- with depression, EtOH, recent loss, past history or family history of suicidal behavior
  • offer accessible services (care integration)
  • increase number of community members trained to identify suicide risk and initiate intervention
    • QPR, MH First Aid, SafeTalk, ASIST trainings

• this is the major focus during a community suicide crisis
Tertiary suicide prevention

- access to crisis services: medical treatment, psychiatric stabilization, post-discharge follow-up
  - transitions between levels of care are highest risk time
  - continuity of care (including medication) and entering outpatient care without delay are crucial
Tertiary suicide prevention

- access to psychiatric care
- medication is not readily available for many patients presenting with medication-responsive problems
  - severe anxiety disorders, depression, OCD, mild to moderate bipolar II d/o, ADHD
ED-SAFE study

• Emergency Department Safety Assessment and Follow-up Evaluation
• multicenter (8 sites), 1376 participants, 55.9% female, median age 37
• sequential design: all centers provided each phase for 16 months
  • treatment as usual (TAU)
  • primary suicide screening
  • primary suicide screening plus intervention

Developing community-based interventions

• some good manuals are available to help design community programs
  • WHO “Preventing suicide: A community engagement toolkit”*  
• AI/AN specific resources also available
  • “Healthy Indian Country Initiative Promising Prevention Practices Resource Guide” **

Developing community-based interventions

• strengthening a community’s resistance to suicide cannot be done by the health care system alone
• it needs engaged and responsive community leadership to enhance:
  • trust in local government
  • involvement in school leadership and activities by family members and community role models
  • first responders’ comfort in handling mental health and substance abuse issues
Patient Safety Screener-3: by nurse

Introductory script: “Now I’m going to ask you some questions that we ask everyone treated here, no matter what problem they are here for. It is part of the hospital’s policy and it helps us to make sure we are not missing anything important.”

**Over the past 2 weeks,**

1. ... have you felt down, depressed, or hopeless?  
   - Yes  
   - No  
   - Patient unable to complete  
   - Patient refused

2. ... have you had thoughts of killing yourself?  
   - Yes  
   - No  
   - Patient unable to complete  
   - Patient refused

**In your lifetime,**

3. ... have you ever attempted to kill yourself?  
   - Yes  
   - No  
   - Patient unable to complete  
   - Patient refused

When did this happen?  
- Within the past 24 hours (including today)  
- Within the last month (but not today)  
- Between 1 and 6 months ago  
- More than 6 months ago  
- Patient unable to complete  
- Patient refused

Positive screen= any “yes” (for #3, within last 6 months)
Secondary screener: by provider

<table>
<thead>
<tr>
<th>Question</th>
<th>Source</th>
<th>Suggested wording</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did the patient screen positive on both PSS items – active ideation with a past attempt?</td>
<td>Source: PSS screener completed by primary nurse, documented on chart.</td>
<td><em>Have you been thinking about how you might kill yourself?</em></td>
</tr>
<tr>
<td>2. Has the individual begun a suicide plan?</td>
<td>Source: Use patient self report, collateral information</td>
<td><em>Have you had some intention of acting on your thoughts?</em></td>
</tr>
<tr>
<td>3. Has the individual recently had intent to act on his/her ideation?</td>
<td>Source: Use patient self report, collateral information</td>
<td>*Have you ever been hospitalized for a mental health or substance use problem?</td>
</tr>
<tr>
<td>4. Has the patient ever had a psychiatric hospitalization?</td>
<td>Source: Use patient self report, collateral information, medical records review</td>
<td>*Has drinking or drug abuse ever been a problem for you? Or administer CAGE or other standardized substance use screener.</td>
</tr>
<tr>
<td>5. Does the patient have a pattern of excessive substance use?</td>
<td>Source: Use patient self report, collateral information, medical records review</td>
<td>*Or administer CAGE or other standardized substance use screener.</td>
</tr>
<tr>
<td>6. Is the patient irritable, agitated, or aggressive?</td>
<td>Source: Use current observations, collateral information, medical records review</td>
<td>*Or administer CAGE or other standardized substance use screener.</td>
</tr>
</tbody>
</table>
ED-SAFE Study: intervention phase

- intervention included **secondary screening**, development of **safety plan** with ED nurse, and **follow up phone calls** over a 52-week period
  - up to 7 brief (10 to 20 min) phone calls
  - phone calls used ‘Coping Long-term with Active Suicide Protocol’ (CLASP-ED) protocol
  - calls made by psychologists, psychology fellows and a licensed counselor

Safety plan for all positive PSS-3

My Personal Safety Plan

Thoughts of suicide may come and go. Coming up with a safety plan can help you get through rough times. This safety plan can help you when you feel like you want to hurt yourself. Make this safety plan yours by reading it carefully and completing each step. Share it with your doctor or therapist. Make sure to keep it with you. And remember, you are not alone!

Step 1: Many people hurt themselves when they are upset or in a bad state of mind. Putting some distance between you and the things you can use to hurt yourself is important. It makes it less likely that you will act on your suicidal thoughts when they happen. It is best to remove things that you can use to hurt yourself as soon as you can. It will be harder to do so when you are under stress or having thoughts of killing yourself.

Ask yourself: How can I make my home safe, right now, before I am in crisis?

☐ Get rid of pills I don't need, keep only quantities that are not dangerous. A doctor or pharmacist can advise you.
☐ Temporarily store all guns with a friend, relative, gun shop, or storage facility. Or ask someone to hold onto the keys to your gun locks/gun safe.

Others:

Step 2: For many, suicidal thoughts do not happen “out of the blue.” There are usually signs or triggers. It will be easier to cope if you see your signs early and take action. Warning signs can be “internal” like sad mood or unhealthy thoughts. They can also be “external” like arguments or other stressful life events. These warning signs should let you know that you should follow your safety plan.

Ask yourself: What are my triggers or warning signs that a crisis is developing?

☐ Feeling down, sad
☐ Bad life events
☐ Feeling worthless, hopeless
☐ Being in pain
☐ Feeling trapped
☐ Feeling anxious, agitated
☐ Feeling stressed, overwhelmed
☐ Feeling, doing poorly at something

Others:

Step 3: If you are feeling down or suicidal, taking your mind off of things can help. It is important to find healthy ways to handle bad moods and bad times.

Ask yourself: What healthy actions can I take to make myself feel better?

☐ Remind myself: these thoughts are serious, but I can get through this.
☐ Talk to someone I trust
☐ Go for a walk, exercise
☐ Do something nice for someone else
☐ Listen to music, watch a movie
☐ Do a hobby, favorite activity
☐ Take my medications as prescribed
☐ Meditate, pray, go to your church or temple

Others:

Step 4: Sometimes it is important to remind ourselves what is important in our lives. Many people say that their family or friends are important. Others remind themselves that even when times are bad there can be value and growth.

Ask yourself: What are the things that are most important to me?

☐ My family and friends
☐ My religious beliefs
☐ My job
☐ My life’s purpose
☐ My community
☐ My pet
☐ My hobbies
☐ My health

Others:

Step 5: Sometimes it is useful to talk with someone who you can trust or who can distract you if you have suicidal thoughts. If you don’t have someone, sometimes there are support groups that can help.

Ask yourself: Who can I talk to that makes me feel better?

Name:
Phone:

Others:

Step 6: There are people who can and want to help you! Even if you cannot reach your doctor, you can always call the Lifeline. The Lifeline has trained people who can help you through your crisis.

Ask yourself: Where can I get help?

My doctor:
Phone:

My counselor/therapist:
Phone:

The Lifeline (Free Crisis Hotline):
1-800-273-8255 [1-800-273-TALK]

If you are still feeling suicidal, dial 911 or go to your nearest emergency room.
Resources

• for ED-SAFE materials, this link is great- it has the screener, secondary screener, wallet card, safety plan template:
  http://www.emnet-usa.org/ED-SAFE/materials.htm

• for PHQ-9, PHQ-2:
  • https://www.uptodate.com/contents/image?imageKey=PC%2F89663&topicKey=RHEUM%2F5169&search=PHQ-2&rank=1~87&source=see_link

http://www.emnet-usa.org/ED-SAFE/materials.htm
JCAHO recommendations: providers

• review each patient’s personal/family history for suicide and risk factors
• screen all patients for suicide ideation using a brief standardized evidence-based tool
• review the screen before patient leaves
JCAHO recommendations: providers

• for patients requiring MH intervention, keep under one-to-one observation until transferred or discharged
  • remove items (bags, backpacks) that could conceal a means of suicide - weapons, pills
• for patients discharged, provide suicide hotline number, develop a safety plan, help restrict access to lethal means
  • ask family members to hold weapons, excess medication, etc.

JCAHO Sentinel Alert Event. Issue 56, February 24, 2016
Objectives

• increase our alertness for risk factors specific to our service population
• help all caregivers to ask questions about suicide and know what to do next
• consider suicide as one type of trauma
  • occurring in the context of history, community, and interpersonal relationships
Day-to-day interactions

• we encounter people at risk of suicide as caregivers, friends, family members, or even strangers
• what statements or behaviors can alert us to possible suicidality?
Suicide warning signs and behaviors

• vague or specific ‘invitations’
  • I wish I could just go away somewhere, wish I were dead, better off dead, maybe I should just kill myself
  • expressing a trapped feeling- nothing’s going to help, it’s hopeless
• drinking more, change in eating/sleeping habits
• isolation, missing work or community activities
• giving away valued possessions, putting affairs in order, saying goodbye
Factors associated with higher suicide risk

- prior suicide attempt
- depression, anxiety, psychosis
- substance use disorder
- family history of suicide
- past or present family violence/abuse (higher ACEs score)
- being incarcerated
- having a gun in the home
- male gender, recent loss, unemployment/economic stress...
Findings from survivors of near-lethal suicide attempts

- leading up to the attempt
  - decreasing self-disclosure
  - deterioration in social relationships
  - less likely to seek help- but more likely to mention suicide if they do
  - self-fulfilling sense of being alone
  - *“fortune-telling“*: feeling able to predict that negative outcomes will arise from future events

Thought processes leading up to suicide

• all or nothing thinking intensifies
  • “I will always be alone”
  • “Life will never be any good (...fair, fun, worthwhile)”
  • “People would be better off if I weren’t here”

• cognition grows increasingly inflexible
  • this forecloses problem-solving ability
  • limits perception of alternatives, perspective, possibility of even black humor
  • “tunnel vision”, narrowing to one point
Findings from survivors of near-lethal suicide attempts

- about 25% were rated as “impulsive”: spent less than 5 minutes between decision and act
  - more likely to use ‘violent’ means: firearms, hanging, jumping
  - impulsive acts 2.6 x more likely to occur between 7pm and 7am
- non-impulsive attempters scored higher for depression, were more likely to plan to avoid discovery- but their methods were less certain to be lethal

Simon T et al. Characteristics of Impulsive Suicide Attempts and Attempters. Suicide and Life- Threatening Behavior, Vol. 32 (Supplement), 2001
The suicidal person may not be able to process usual supportive approaches

- reassurance
  - “it’s not that bad”
  - “but your (mom, husband, friend) loves you”
  - “there are other fish in the sea”
- problem-solving assistance
  - “I know a great divorce lawyer”
  - “when you feel ready we’ll go to the shelter and find another dog”
Lessons from the ASIST model of suicide prevention

• when a person’s cognition has foreclosed to the point of suicidality, initial intervention must be aimed at reducing inflexibility and negative “fortune-telling”
  • problem solving and helpful suggestions require flexibility and optimism to be useful
  • the person at risk is likely to feel you just don’t get it, or begin to comply in a superficial way
Lessons from the ASIST model of suicide prevention

• try to elicit the story of how bad things are, how they got that way
  • keep eliciting information about triggers, feelings, even hopelessness
  • resist making helpful suggestions until the person at risk gives a clue about a ‘turning point’
• then use that turning point to enlist cooperation to develop a short-term safety plan
ED-SAFE study results

- no meaningful reduction in suicide attempts between treatment as usual and screening-only groups
- intervention group had a **30% reduction** in suicide attempts over 52 weeks after ED visit
- frequent ED users are at higher risk of suicide

Suicide prevention trainings

• ASIST (2 full days)
• Mental Health First Aid
• SafeTalk
• QPR (1-2 hours)
• others
## PHQ-2

### Patient Health Questionnaire-2: Screening Instrument for Depression

<table>
<thead>
<tr>
<th>Over the past two weeks, how often have you been bothered by any of the following problems?</th>
<th>Not at all</th>
<th>Several days</th>
<th>More than one-half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little interest or pleasure in doing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling down, depressed, or hopeless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Note:** If the patient has a positive response to either question, consider administering the Patient Health Questionnaire-9 or asking the patient more questions about possible depression. For older adults, consider the Patient Health Questionnaire-9 or the 15-item Geriatric Depression Scale. A negative response to both questions is considered a negative result for depression.
## Patient Health Questionnaire-9: Screening Instrument for Depression

<table>
<thead>
<tr>
<th><strong>OVER THE PAST TWO WEEKS, HOW OFTEN HAVE YOU BEEN BOTHERED BY ANY OF THE FOLLOWING PROBLEMS?</strong></th>
<th><strong>NOT AT ALL</strong></th>
<th><strong>SEVERAL DAYS</strong></th>
<th><strong>MORE THAN ONE-HALF THE DAYS</strong></th>
<th><strong>NEARLY EVERY DAY</strong></th>
</tr>
</thead>
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<td>Little interest or pleasure in doing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling down, depressed, or hopeless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Trouble falling or staying asleep, or sleeping too much</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling tired or having little energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Poor appetite or overeating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling bad about yourself—or that you are a failure or have let yourself or your family down</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Trouble concentrating on things, such as reading the newspaper or watching television</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Moving or speaking so slowly that other people could have noticed. Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Thoughts that you would be better off dead, or of hurting yourself in some way</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total:** ____+  ____+  ____