

Suicide: Myths and Realities

An overview of the current state of suicide,
suicide assessment and prevention

Michael Farnsworth, MD, DFAPA

Forensic Psychiatrist

Medical Director, Blue Earth Co. Mental Health

Defining the Problem

- Attempted suicide is a potentially self-injurious act committed with at least some intent to die as a result of the act.¹
- Suicide is an attempt to solve a problem of intense emotional pain with impaired problem-solving skills.²
- Individuals of all races, creeds, incomes, and educational levels die by suicide. There is no typical suicide victim.³

1. Kalafat, J. & Underwood, M. *Making Educators Partners in Suicide Prevention*. Lifelines: A School-Based Youth Suicide Prevention Initiative. Society for the Prevention of Teen Suicide. <http://spts.pldm.com/>

2. Kalafat, J. & Underwood, M. *Making Educators Partners in Suicide Prevention*. Lifelines: A School-Based Youth Suicide Prevention Initiative. Society for the Prevention of Teen Suicide. <http://spts.pldm.com/>

3. Clayton, J. *Suicide Prevention: Saving Lives One Community at a Time*. American Foundation for Suicide Prevention. http://www.afsp.org/files/Misc_//standardizedpresentation.ppt

Characteristics of Suicide

Alternative to problem perceived as unsolvable by any other means:

Viewing suicide from this perspective has several important implications.

For one, just as someone may get a temporary high from a drug, he or she may obtain temporary attention, support, or even popularity after a suicide attempt.

A second implication of viewing suicide as an alternative is that suicide can then be understood as less than a wish to die than a wish to escape the intense emotional pain generate from what appears to be an inescapable solution.

Characteristics of Suicide

Person is often ambivalent:

What this means is that the person is feeling two things at the same time: there is a part of that person that wants to die and part that wants to live and both parts must be acknowledged.

While we line up with and unequivocally support the side that wants to live, this can't be done by ignoring or dismissing that side that wants to die.

Characteristics of Suicide

Suicidal solution has an irrational component:

People who are suicidal are often unaware of the consequences of suicide that are obvious to the rest of the world.

For example, they are usually not thinking about the impact of their death on others, or they hold a perception they will be reincarnated or somehow still present to see how others react to their deaths.

This irrationality affects how trapped and helpless the person feels.

Characteristics of Suicide

Suicide is a form of communication:

For people who are suicidal, normal communication has usually broken down and the suicide attempt may be the person's way of sending a message or reacting to the isolation they feel because their communication skills are ineffective.

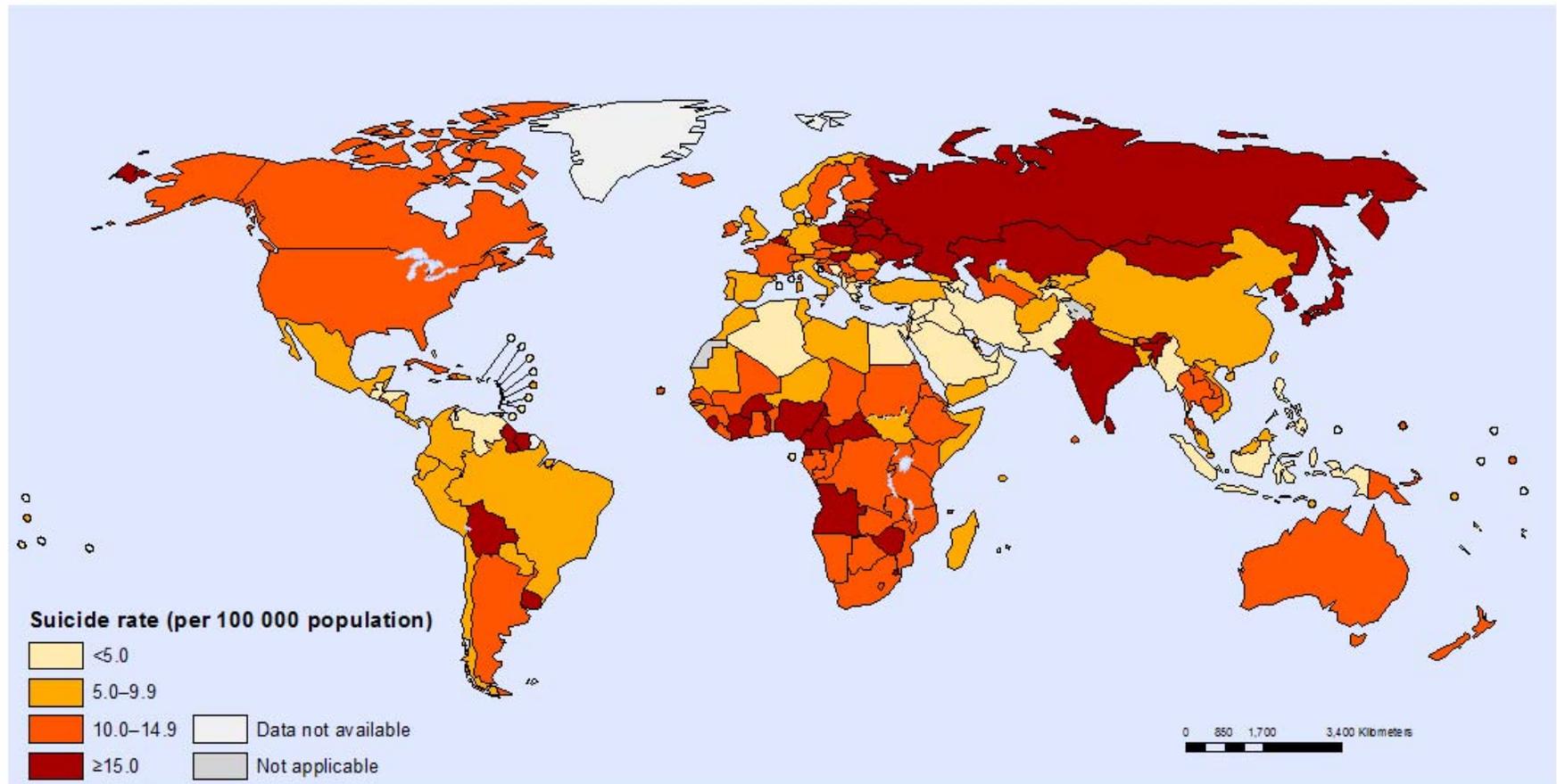
International Suicide Statistics

- Over 800,000 people die by suicide worldwide each year.
- The global suicide rate is 16 per 100,000 population.
- On average, one person dies by suicide every 40 seconds somewhere in the world.
- 1.4% of worldwide deaths are suicides.
- 2nd leading cause of death in 15-29 yr olds
- Global suicide rates have increased 60% in the past 45 years.



Source: WHO 2015

Age-standardized suicide rates (per 100 000 population), both sexes, 2015



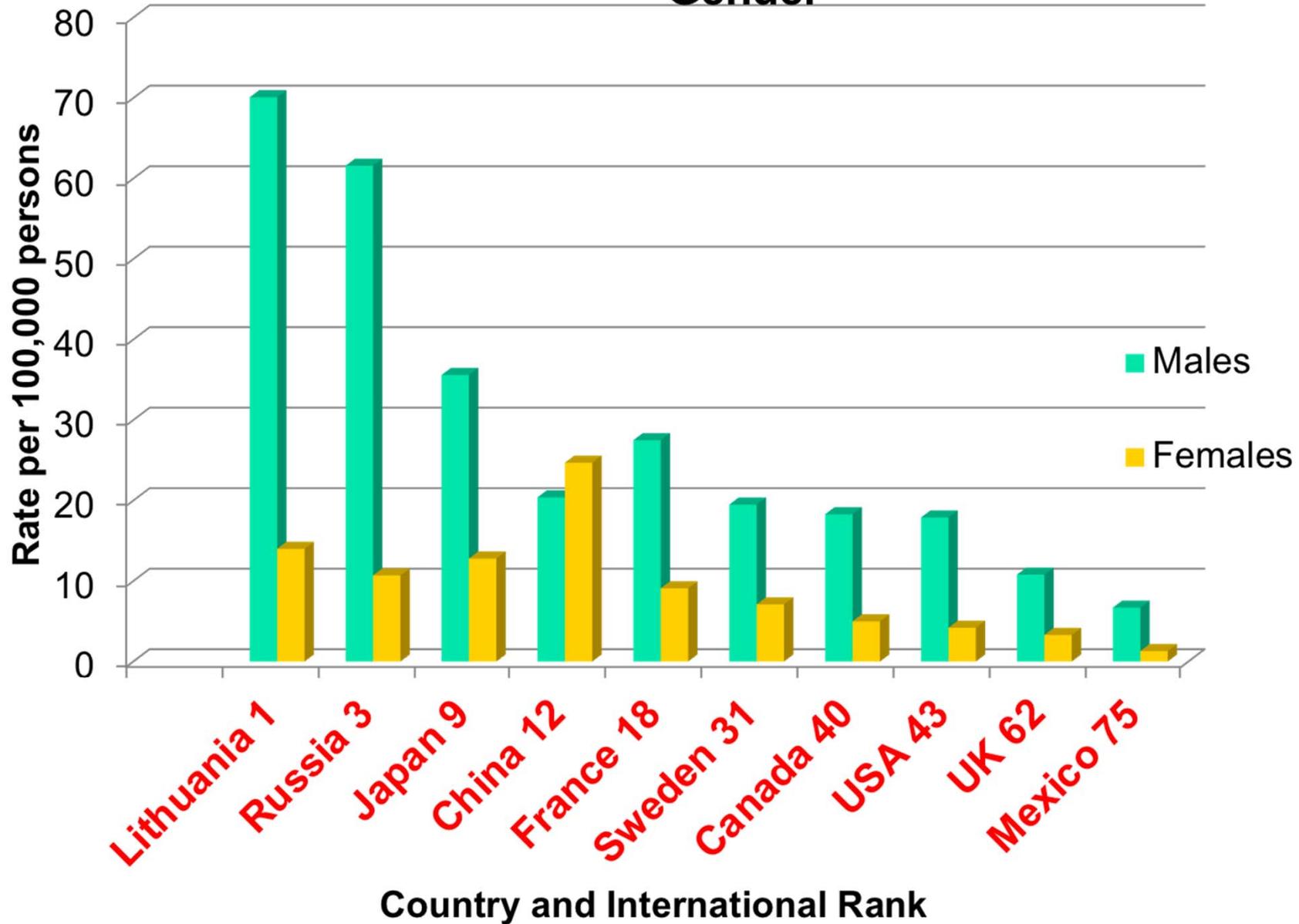
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Information Evidence and Research (IER)
World Health Organization



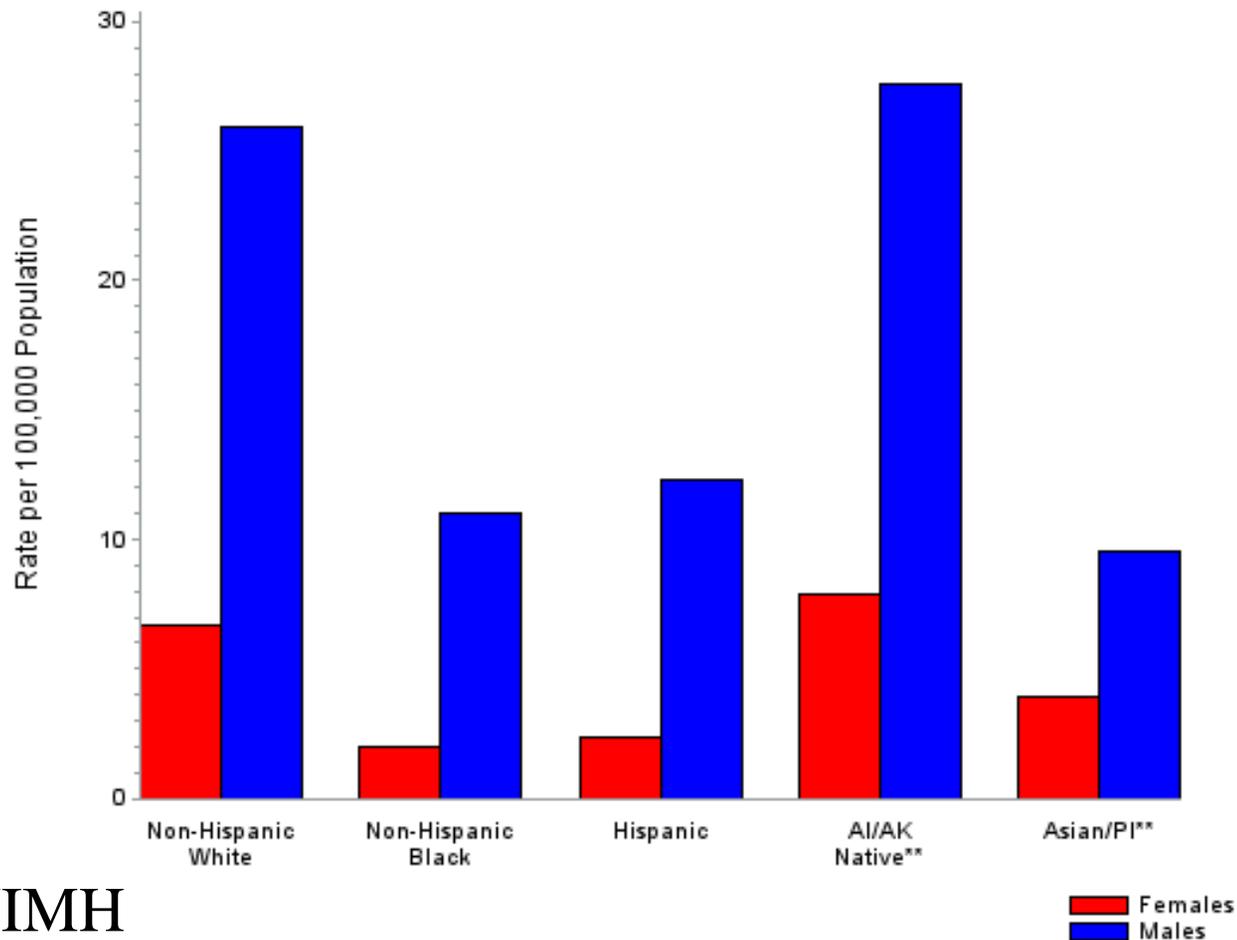
© WHO 2017. All rights reserved.

International Suicide Rates per 100,000 Persons by Gender



USA Suicide Statistics at a Glance

Suicide Rates* Among Persons Ages 10 Years and Older, by Race/Ethnicity and Sex, United States, 2005–2016



Source: NIMH

Suicide: Consequences

Suicide and Suicide Attempts Take an Enormous Toll on Society

- Suicide is the 10th leading cause of death among all Americans and 2nd leading cause among those age 10 to 34.
- More than 44,900 people died by suicide in 2016.
- Suicide rate among males (21.3/100K) is 4X that of females (6.0/100K)
- More than 1 million people reported making a suicide attempt in the past year.
- More than 2 million adults reported thinking about suicide in the past year.
- Most people who engage in suicidal behavior never seek health services.

Costs to Society

- Suicide costs society approximately \$50.8 billion a year in combined medical and work loss costs.
- The average suicide costs \$1,061,170.

(CDC cost estimates based on 2013 data. Refers to people age 10 and over.)

Suicide Statistics

- Suicide was the seventh leading cause of death for males and the fifteenth leading cause of death for females in 2016.
- Suicide rate increase 28% between 1999 and 2016.
- 54% of individuals who died by suicide in 27 states had not received a mental illness diagnosis.
- Firearms, suffocation, and poison are by far the most common methods of suicide, overall with firearms accounting for nearly half of all suicides
- However, men and women differ in the method used, as shown below.

Suicide by:	Males (%)	Females (%)
Firearms	56	32
Suffocation	26	25
Poisoning	9	33

Source: NIMH

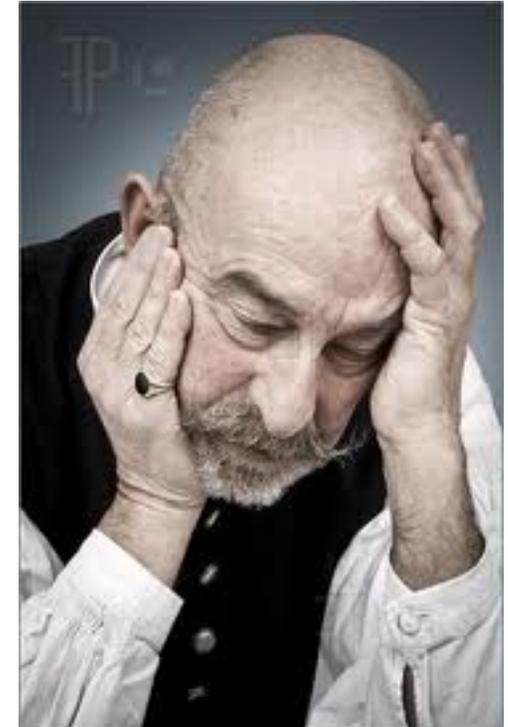
Suicide Statistics

- In 2016, suicide was the second leading cause of death for young people ages 10 to 24.
- Of every 100,000 young people in each age group, the following number died by suicide:
 - Children ages 10 to 14 — 0.9 per 100,000
 - Adolescents ages 15 to 19 — 6.9 per 100,000
 - Young adults ages 20 to 24 — 12.7 per 100,000
- Nearly five times as many males as females ages 15 to 19 died by suicide.
- Just under six times as many males as females ages 20 to 24 died by suicide.



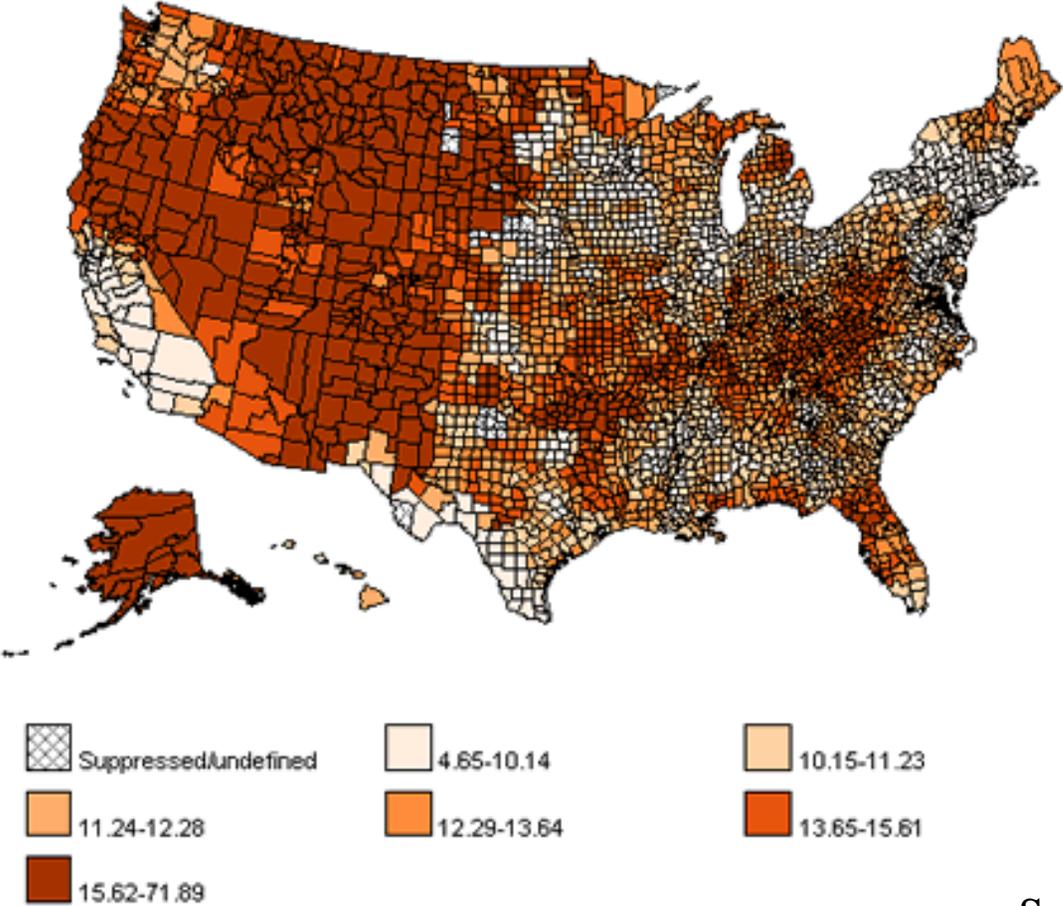
Suicide Statistics

- Older Americans are disproportionately likely to die by suicide.
- Of every 100,000 men age 65 and older, 32.2 died by suicide in 2016.
- This figure is higher than the national average of 15.6 suicides per 100,000 people in the general population.
- Non-Hispanic white men age 85 or older had an even higher rate, with 47 suicide deaths per 100,000.



Source: NIMH

Smoothed, Age-adjusted Suicide Rates* per 100,000 population, by County, United States, 2000–2016

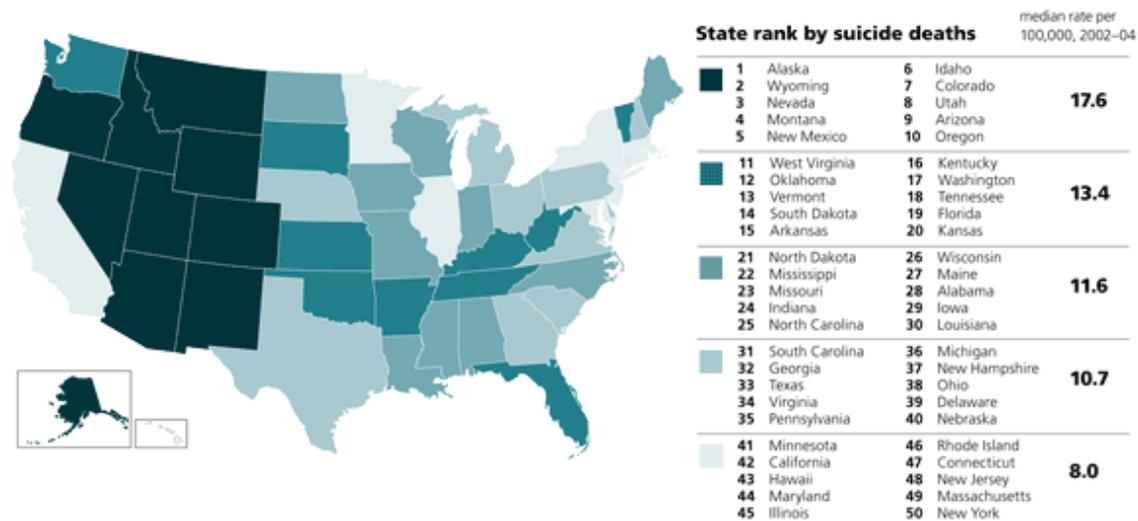
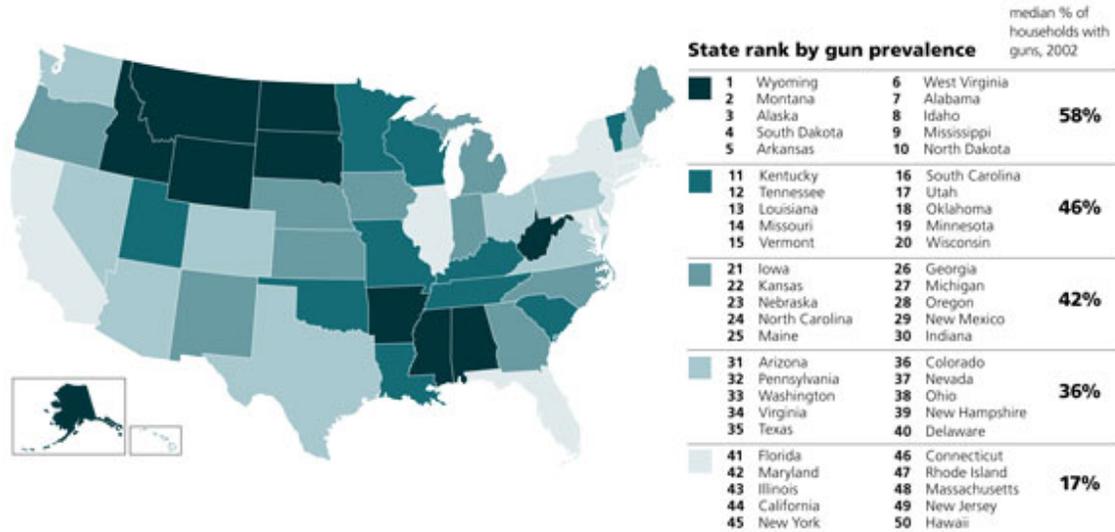


Source: CDC

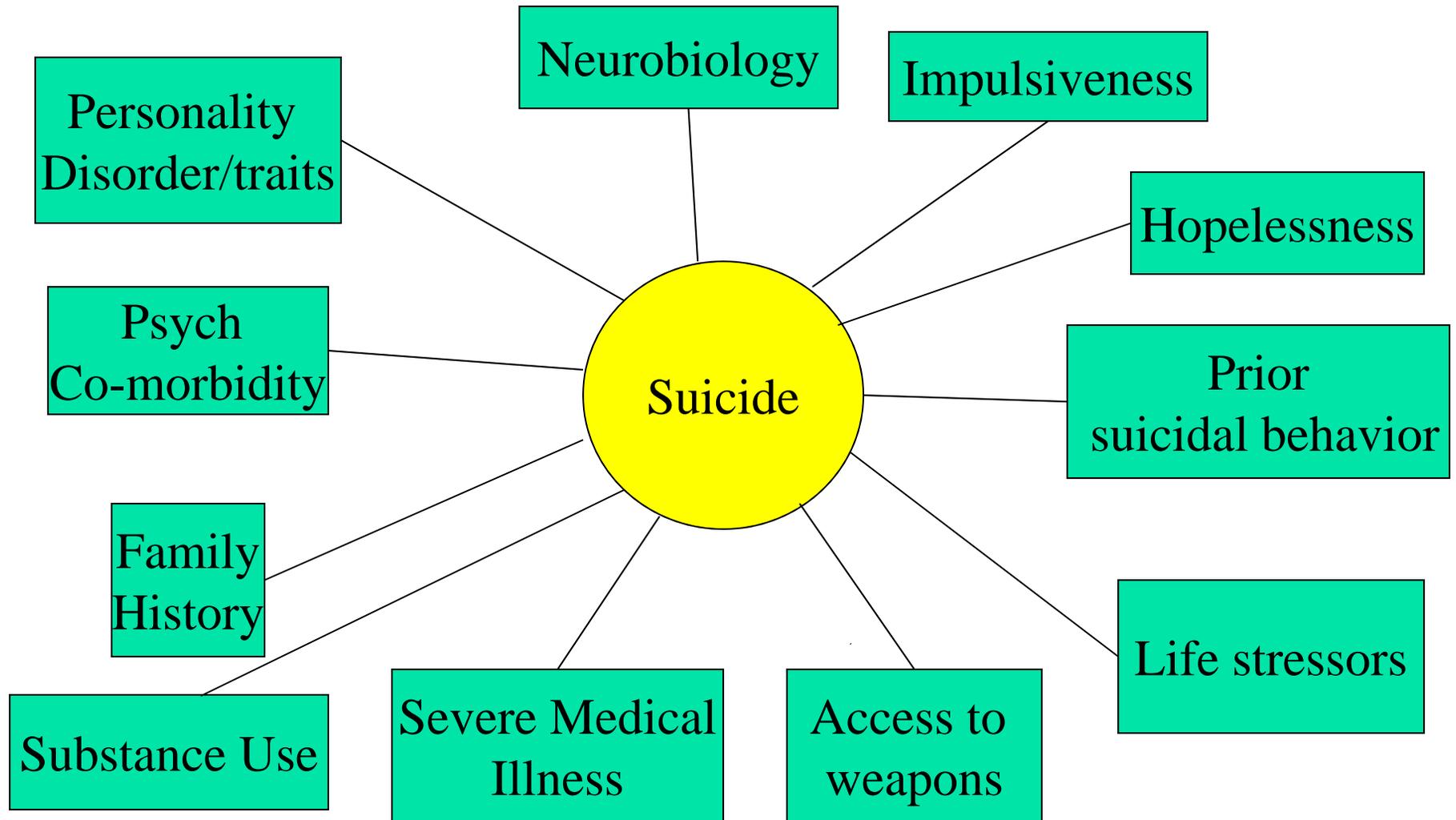
Suicide Attempts and Lethality

- Many suicide attempts occur with little planning during a short-term crisis.
- Intent isn't all that determines whether an attempter lives or dies; means also matter.
- 90% of attempters who survive do NOT go on to die by suicide later.
- **Access to firearms** is a risk factor for suicide.
- Firearms used in youth suicide usually belong to a parent.
- Reducing access to lethal means saves lives.

Gun Prevalence and Completed Suicide



Suicide: A Multi-Factorial Event



Environmental Risk Factors

- Job, financial loss, drop out of school
- Homelessness
- Relational or social loss
- Easy access to lethal means
- Local clusters of suicides that have a contagious influence

Socio-cultural Risk Factors

- Lack of social support and sense of isolation
- Stigma associated with help-seeking behavior
- Barriers to accessing health care, especially mental health and substance abuse treatment
- Certain cultural and religious beliefs (for instance, the belief that suicide is a noble resolution of a personal dilemma)
- Exposure to, including through the media, and influence of others who have died by suicide

Risk Factors for nonfatal suicide attempts

- An estimated 11 nonfatal suicide attempts occur per every suicide death.
- Men and the elderly are more likely to have fatal attempts than are women and youth.
- Risk factors for nonfatal suicide attempts by adults include depression and other mental disorders, alcohol and other substance abuse and separation or divorce.
- Risk factors for attempted suicide by youth include depression, alcohol or other drug-use disorder, physical or sexual abuse, and disruptive behavior.
- **Most suicide attempts are expressions of extreme distress, not harmless bids for attention. A person who appears suicidal should not be left alone and needs immediate mental-health treatment.**

Research shows that risk factors for suicide include:

Depression and other mental disorders, or a substance-abuse disorder (often in combination with other mental disorders).

- More than 90 percent of people who die by suicide have one or more of these risk factors:
 - prior suicide attempt
 - family history of mental disorder or substance abuse
 - family history of suicide
 - family violence, including physical or sexual abuse
 - firearms in the home, the method used in more than half of suicides
 - Incarceration
 - exposure to the suicidal behavior of others, such as family members, peers, or media figures.
 - elevated rates of impulsivity

Risk Factors (red=modifiable)

- Demographics
- **Psychosocial**: social support; SES
- **Psychiatric**: diagnosis; co-morbidity
- **Physical Illness**: pain syndromes, many others
- **Psychological dimensions**: hopeless; turmoil; narcissism
- **Behavioral dimensions**: impulsivity; anxiety; aggression
- **Cognitive dimensions**: thought constriction; polarized
- Childhood trauma
- Genetic & Familial

Affective Disorders and Suicide

High Risk Profile:

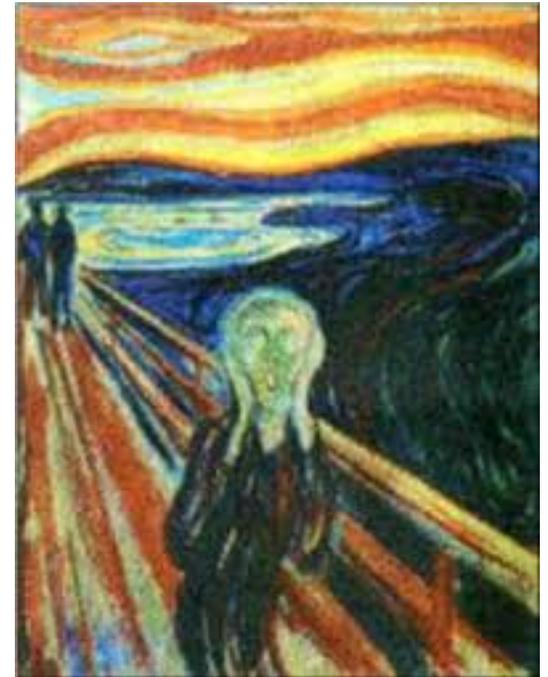
- Suicide occurs early in the course of the illness
- Anxiety or panic symptoms present
- Moderate alcohol use
- First episode of suicidality
- Hospitalized for mood disorder secondary to suicidality
- Risk for men is four times greater than for women except in bipolar disorder where women are at equal risk



Schizophrenia and Suicide

High Risk Profile:

- Previous suicide attempt(s)
- Significant depressive symptoms
- Hopelessness
- Male
- First decade of illness
- Poor pre-morbid functioning
- Current substance abuse
- Poor current work and social functioning
- Recent hospital discharge



Substance Abuse and Suicide

High Risk Profile:

- Recent or impending personal loss
- Co-morbid depression
- Other co-morbid psychiatric illness
- Suicide occurs late in the course of the illness with communication of intent lasting several years
- Increased number of substances used, rather than the specific substance appears to increase risk
- In completed suicides, men have higher alcohol abuse, women higher drug abuse



1401E0025 [RM] © www.visualphotos.com

Family History/Genetics and Suicide

- Relatives of suicidal subjects have a four fold increase risk compared to relatives of non-suicidal subjects
- Twin studies indicate a higher concordance of suicide behavior between identical rather than fraternal twins
- Adoption studies demonstrate a greater risk of suicide among biologic rather than adoptive relatives
- Suicide appears to be an independent, inheritable risk factor



Personality Disorders and Suicide

- **Borderline Personality Disorder**
 - Lifetime rate: 8.5%
 - With Alcohol abuse: 19%
 - With alcohol and major affective disorder: 38% (Stone 1993)
 - A co-morbid diagnosis in 30% of suicides
 - Nearly 75% of persons with Borderline P.D. have made at least one suicide attempt
- **Antisocial Personality Disorder**
 - Suicide associated with narcissistic injury/ impulsivity

Mitigating Factors for Suicide

- Children in home, except among those with postpartum psychosis
- Pregnancy
- Deterrent religious beliefs
- Life satisfaction
- Reality testing ability
- Positive coping skills
- Positive social support
- Positive therapeutic relationship

Specific Symptoms Correlated with Suicide

- Hopelessness
- Impulsivity/aggression
- Anxiety
- Command Hallucinations

Hopelessness

- Research indicates relationship between hopelessness and suicidal intent in both hospitalized and non-hospitalized patients
- Subjective hopelessness was associated with fewer reasons for living and increase risk for suicide
- Active intervention may modify hopelessness



Impulsivity/Aggression

- Suicide attempters may be more likely to present with traits of impulsivity/aggression regardless of diagnosis
- Past history is most reliable indicator of future risk
- Important in assessing risk of murder-suicide



Anxiety

Anxiety symptoms
(independent of an anxiety
disorder) associated with
suicide risk:

- Panic attacks
- Subjective anxiety (esp. psychosis)
- Anxious ruminations
- Agitation/Akathesia



Command Hallucinations

- Existing studies are too small to draw firm conclusions about relationship between commands and suicidal behavior
- APA recommends that patients with suicidal command hallucinations be considered seriously suicidal
- Management of patients with chronic command hallucinations require consultation and documentation

Hallucinations and Suicide

- Compliance of obeying command hallucinations is up to 40%
- Increased with a hallucination-related delusion
- Increased if the voice is familiar
- No increased risk of acting on voice if it is God or Satan



Delusions

- Persecutory delusions are more likely to be acted on than any other types of delusions
- Threat/control-override symptoms associated with increased impulsivity include
 - Mind feels dominated by forces beyond one's control
 - Feelings that thoughts are being put into one's head
 - Feelings that there are people that wish one harm



Life Stressors

- Recent severe, stressful, life events are associated with suicide in vulnerable individuals
- Stressors include:
 - Interpersonal conflict or loss
 - Legal problems
 - Moving
 - Economic problems

Life Stressors

- High risk stressor: Humiliating event
 - Financial ruin
 - Scandal
 - Arrest
 - Fired from job
- Identify stressor in context of personality, vulnerabilities, illness and support system

What is resilience?

- Everyone experiences stress and difficult circumstances during their life.
- Most people can handle these tough times and may even be able to make something good from a difficult situation.
- Resilience is the ability to bounce back after experiencing trauma or stress, to adapt to changing circumstances and respond positively to difficult situations.
- It is the ability to learn and grow through the positive and the negative experiences of life, turning potentially traumatic experiences into constructive ones.
- Being resilient involves engaging with friends and family for support, and using coping strategies and problem-solving skills effectively to work through difficulties.

Factors That Contribute to Individual Well-Being

- Self Image: sense of self, including self-esteem secure identity, ability to cope, and mental health and well-being
- Behavior: social skills including life skills, communication, flexibility, and caring
- Spirit: sense of purpose, including motivation, purpose in life, spirituality, beliefs, and meaning
- Heart: emotional stability, including emotional skills, humor, and empathy
- Mind: problem solving skills, including planning, problem-solving, help-seeking, and critical and creative-thinking.
- Body: physical health, physical energy, and physical capacity

The Four Main Factors That Influence A Person's Reaction to Life Events

1. Individual Health and Well-Being

- Sense of self, social skills, sense of purpose, emotional stability, problem-solving skills, and physical health.

2. Pre-Disposing or Individual Factors

- Genes, gender and gender identity, personality, ethnicity/culture, socio-economic background, and social/geographic inclusion or isolation.

3. Life History and Experience

- Family history and context, previous physical and mental health, exposure to trauma, past social and cultural experiences, and history of coping.

4. Social and Community Support

- Support and understanding from family, friends, local doctor, local community, school, level of connectedness, safe and secure support environments, and availability of sensitive professionals and mental health practitioners.

Living Is For Everyone. *Fact sheet 6: Resilience, vulnerability, and suicide prevention.*

<http://www.livingisforeveryone.com.au/IgnitionSuite/uploads/docs/LIFE-Fact%20sheet%206.pdf>

The Four Main Factors That Influence A Person's Reaction to Life Events

3. Life History and Experience

- Family history and context, previous physical and mental health, exposure to trauma, past social and cultural experiences, and history of coping.

4. Social and Community Support

- Support and understanding from family, friends, local doctor, local community, school, level of connectedness, safe and secure support environments, and availability of sensitive professionals/carers and mental health practitioners.

Firearms and Suicide

- Firearms account for 55-60% of suicides and attempts
- Firearms at home significantly raise risk for suicide among adolescents
- Type of gun is not statistically correlated with increase risk
- Risk management point: Always inquire about firearms and document instructions and response

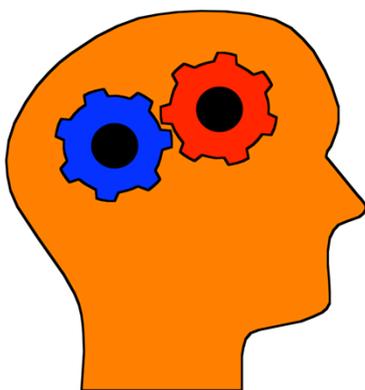


Predicting Suicide

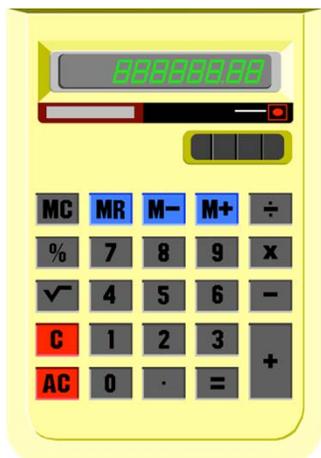


If we know all the risk and protective factors can suicide be predicted and prevented?

Prediction of Future Behavior



Clinical: Decision maker mentally processes information to make prediction.



Actuarial: Statistical method which eliminates human judgment and bases conclusions solely on empirically established relationships between data and condition of interest

Best estimates of Clinical accuracy is 33%
Actuarial predictions always out-perform clinical predictions

Prediction Contingency Table

ACTUAL OUTCOME

PREDICTION

		suicide	No suicide
suicide		True Positive	False Positive
No suicide		False Negative	True Negative

Applying Suicide Prediction Modelling

Imagine the following Scenario

Statistically about 33 suicides/yr. occur in SCCBI catchment area

- Assume we have a 95% accurate tool to screen all people for suicide
- 300,000 people live in the catchment area
- How many suicides will be correctly identified?
- How many non-suicides will be identified?

Actuarial Judgment Contingency Table

Assumptions

Accuracy=95%

Base Rate=11/100K

N=300K (SCCBI Population)

PREDICTION

ACTUAL OUTCOME

suicide

No suicide

suicide

TP
31

FP
14998

No suicide

FN
2

TN
284969

Totals

33

299967

300000

Suicide Prediction Tools

Despite extensive research and analysis of risk factors, no reliable tool has been developed to predict suicide that can be used clinically

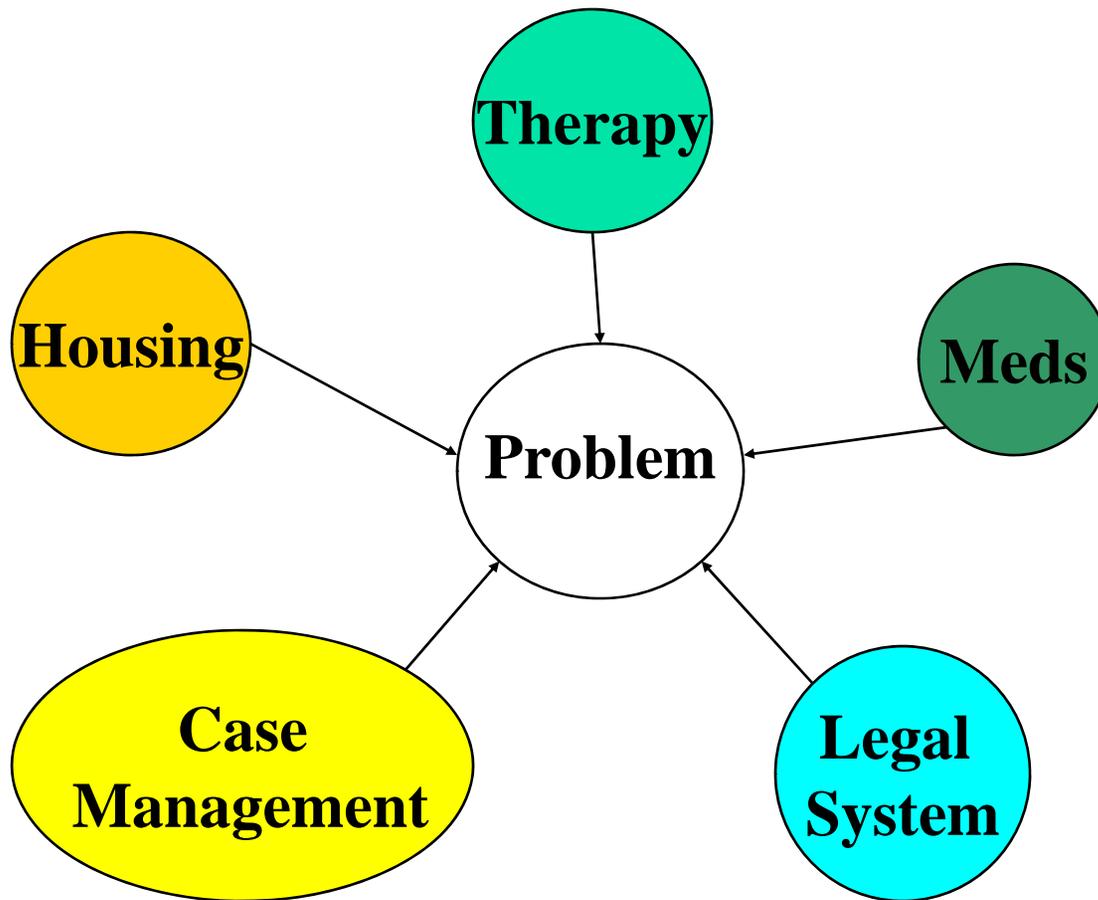


Risk Prediction vs. Risk Management

Risk prediction
places the risk problem
at the center of clinical
concern and not the
individual



Problem Centered Model of Care



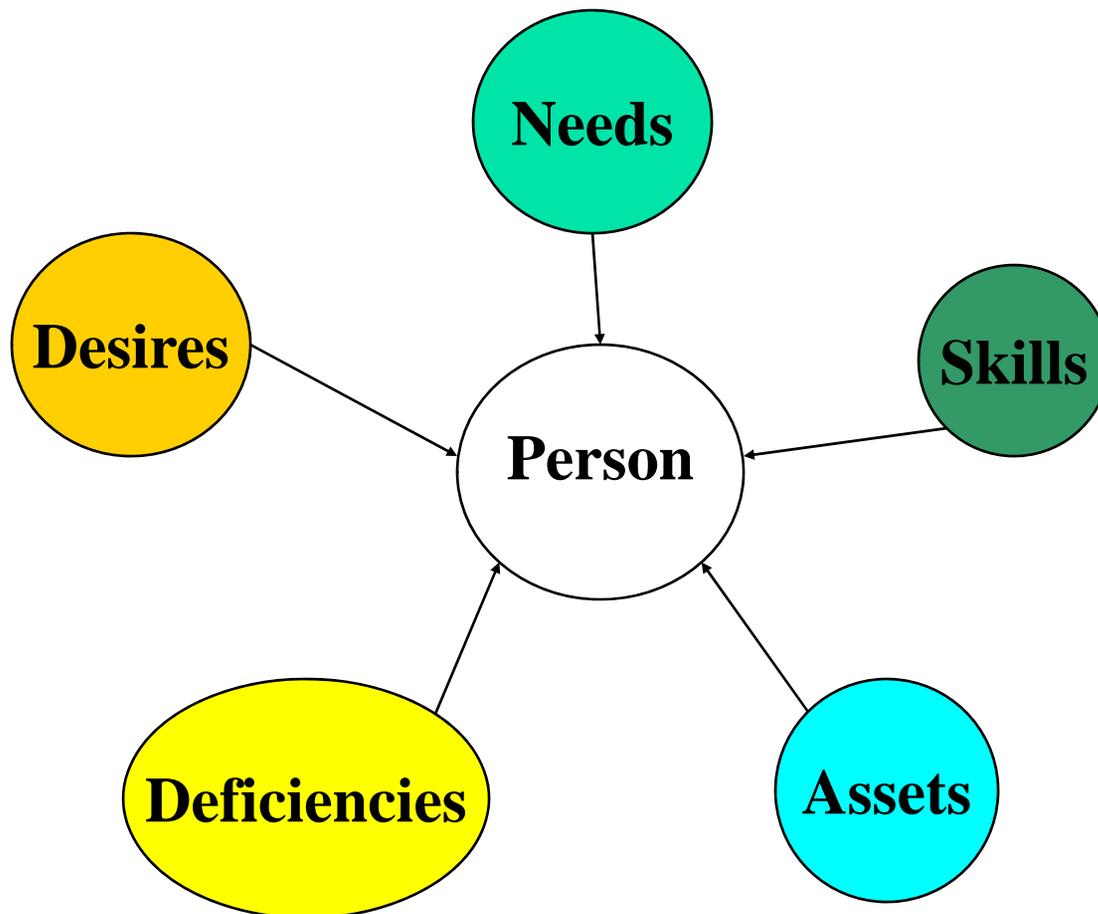
Risk Prediction vs. Risk Management



Risk management

requires attention to all aspects of a person in which the risk is recast as combinations of personal characteristics and the person is the center of attention

Person Centered Model of Care



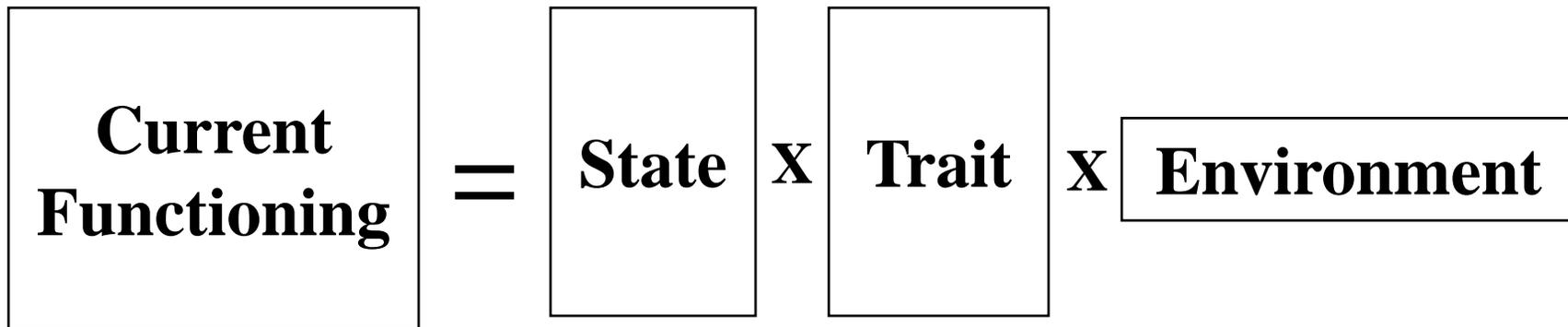
Focus of Risk Management



- **Traits**
- **States**
- **Environmental Influences**

These factors may aggravate or mitigate an individual's personal risk.

State Trait Environment



States & Traits



- **States** are like the weather--changes frequently
- **Traits** are like the climate--maintains patterns over time

States

Transient conditions acutely influencing behavior

- Mood State
- Psychosis
- Intoxication
- Homelessness
- Sudden unemployment
- Adjustment reactions
- Acute medical emergency

May be influenced by direct intervention

- Mood stabilizers
- Antipsychotic Meds
- Detoxification
- Housing
- Financial assistance
- Crisis support
- Medical treatment

Traits

Enduring patterns or conditions influencing behavior

- Character structure
- Intelligence
- Substance abuse
- Negative symptoms of schizophrenia

May be indirectly influenced by supportive interventions

- Psychotherapy
- Skills training
- Support groups
- ADL services

Environment

The living circumstance a person inhabits and in which is expressed states and traits

- Institution vs. independent
- Congregate vs. single
- Supportive vs. isolated
- Secure vs. dangerous
- Hopeful vs. hopeless
- Substance free vs. substance abusing



Documenting Suicide Risk Assessments

- At initial assessment or admission
- With occurrence of any suicidal behavior or ideation
- Whenever there is a noteworthy clinical change
- Before increasing privileges, granting passes or discharging an inpatient
- Document all issues regarding firearms



Documenting Suicide Risk Assessments

- Document:
 - Risk level (High, Medium, Low)
 - The basis for the risk level
 - The intervention/management plan
 - Frequency of reassessment
- Suicide Prevention Contracts:
Worthless!
- Use a systematic approach to risk assessment identifying state, trait and environmental factors that aggravate or mitigate the likelihood of suicide



"Errors in judgment must occur in the practice of an art which consists largely of balancing probabilities."

Sir William Osler
Aequanimitas: 1889

