Preventing Suicide

Amy B. Schiffman, MD

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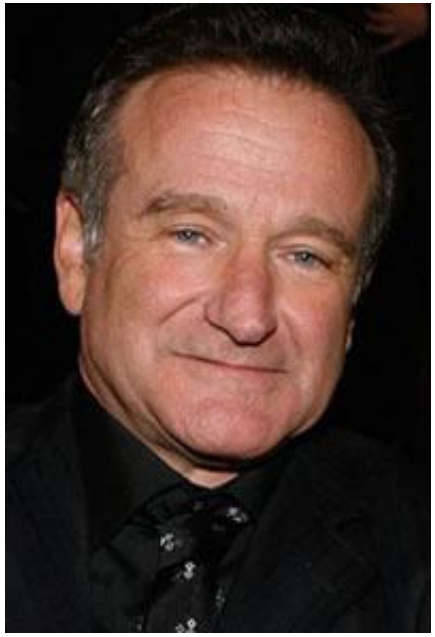
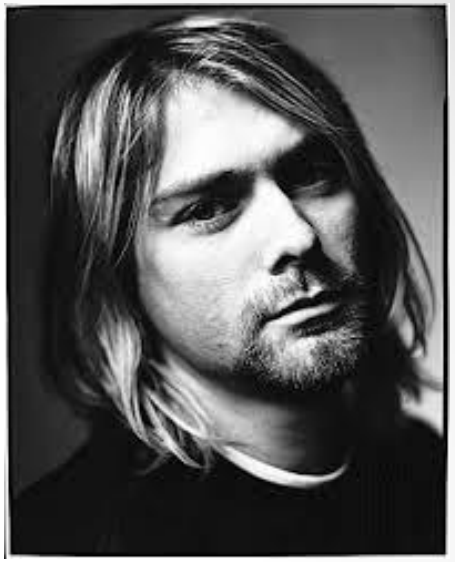
Disclosures

I have no actual or potential conflict of interest in relation to this program/presentation

Objectives

- Review epidemiology and risk factors for suicide
- Examine WHO Publication
- Discuss the Action Alliance Research Prioritization Task Force
- Present strategies for suicide prevention
- Evaluate efficacy of prevention
- Highlight physician risk





Personal Impact

Every 40 seconds
a person dies by suicide
somewhere in the world


Preventing
suicide
A global imperative
World Health
Organization

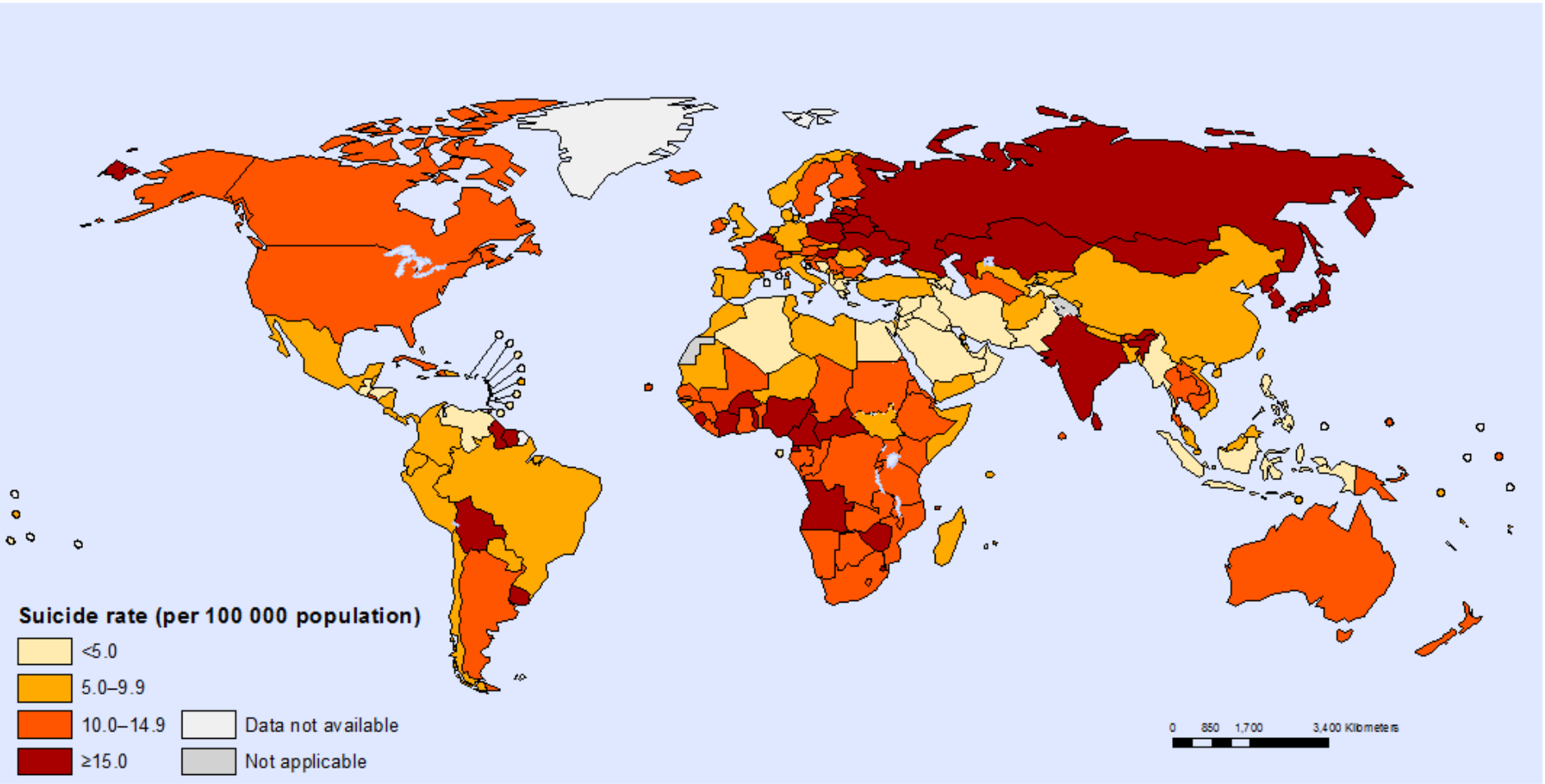
WHO Publication

- Preventing Suicide - A Global Imperative
- First WHO report
  - Published March 2014
- Aims
  - Increase awareness of the public health significance of suicide and suicide attempts
  - Make suicide prevention a higher priority on the global health agenda
  - Encourage and support countries to develop or strengthen comprehensive suicide prevention strategies

WHO Statistics

- 800,000 suicide deaths worldwide in 2017
- Suicide rate/100,000: 15.0 male, 8.0 female
  - High income countries: 3 to1 Male-Female ratio
  - Low to middle income countries: 1.5 to1 M-F ratio
- Suicide attempt rates
- Highest in persons aged >70 years
- Globally, 2nd leading cause of death 15-29 yo
- Methods: ingestion of pesticides, hanging and firearms

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



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

World Health Organization

Figure 1. **The public health model**

Global Risk Factors

- Health System
  - Difficulty accessing and receiving health care
  - Fragmented mental health care
- Society
  - Easy availability of means
    - Unregulated handgun ownership
  - Inappropriate media reporting
  - Stigma against those who seek help

Global Risk Factors

- Community
  - War and disaster
  - Discrimination
  - Abuse & prolonged stress
    - PTSD
  - Violence
- Individual
  - **Prior suicide attempt**
  - Mental illness
  - Substance abuse
    - Opioid epidemic
  - Crisis
  - Family History

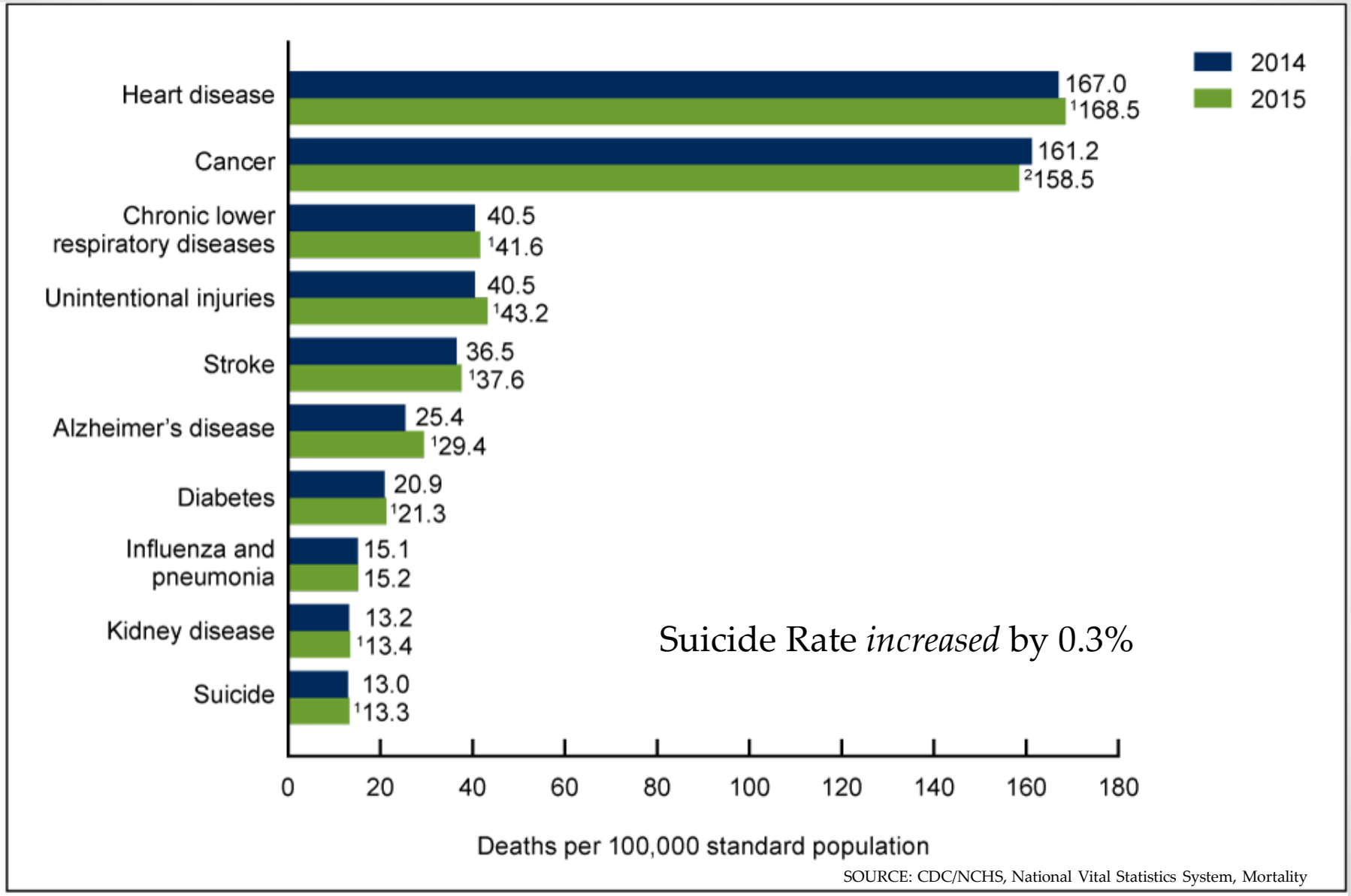
Impact of Suicide in US

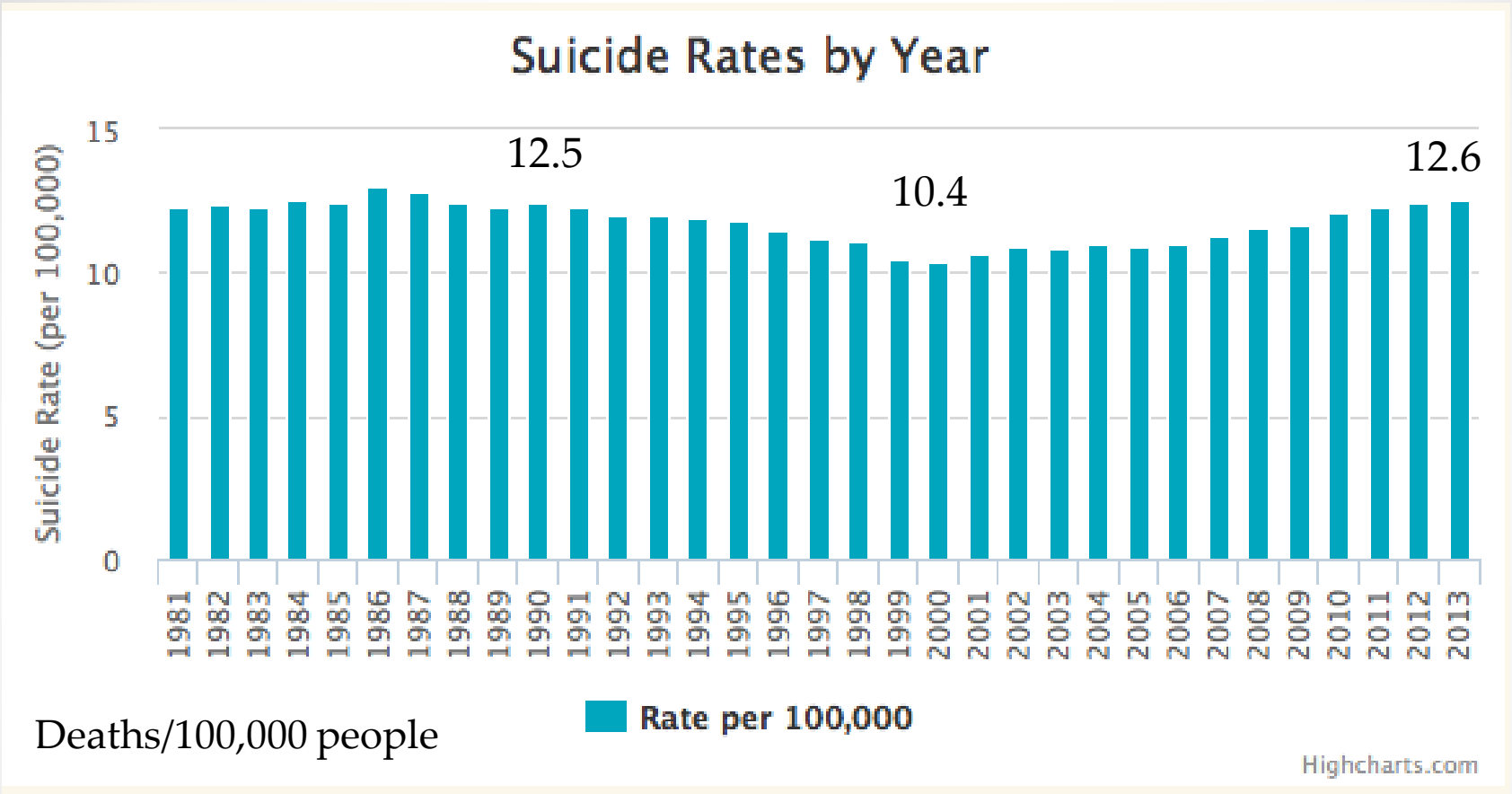
- 45,000 Americans per year
- 500,000 people treated in emergency departments for self-inflicted injury
- 1 million adults ***reported*** a suicide attempt
  - 2-9 million reported thoughts in prior year
- 2nd leading cause of death among adolescents and young adults age10-34 years

Impact of Suicide in US

- Economic impact
- Social Impact
- Critical role of primary care providers
  - 45% of US adults who died by suicide visited their PCP within past month
  - 57-90% visited PCP within past year

Causes of Death in US, 2015





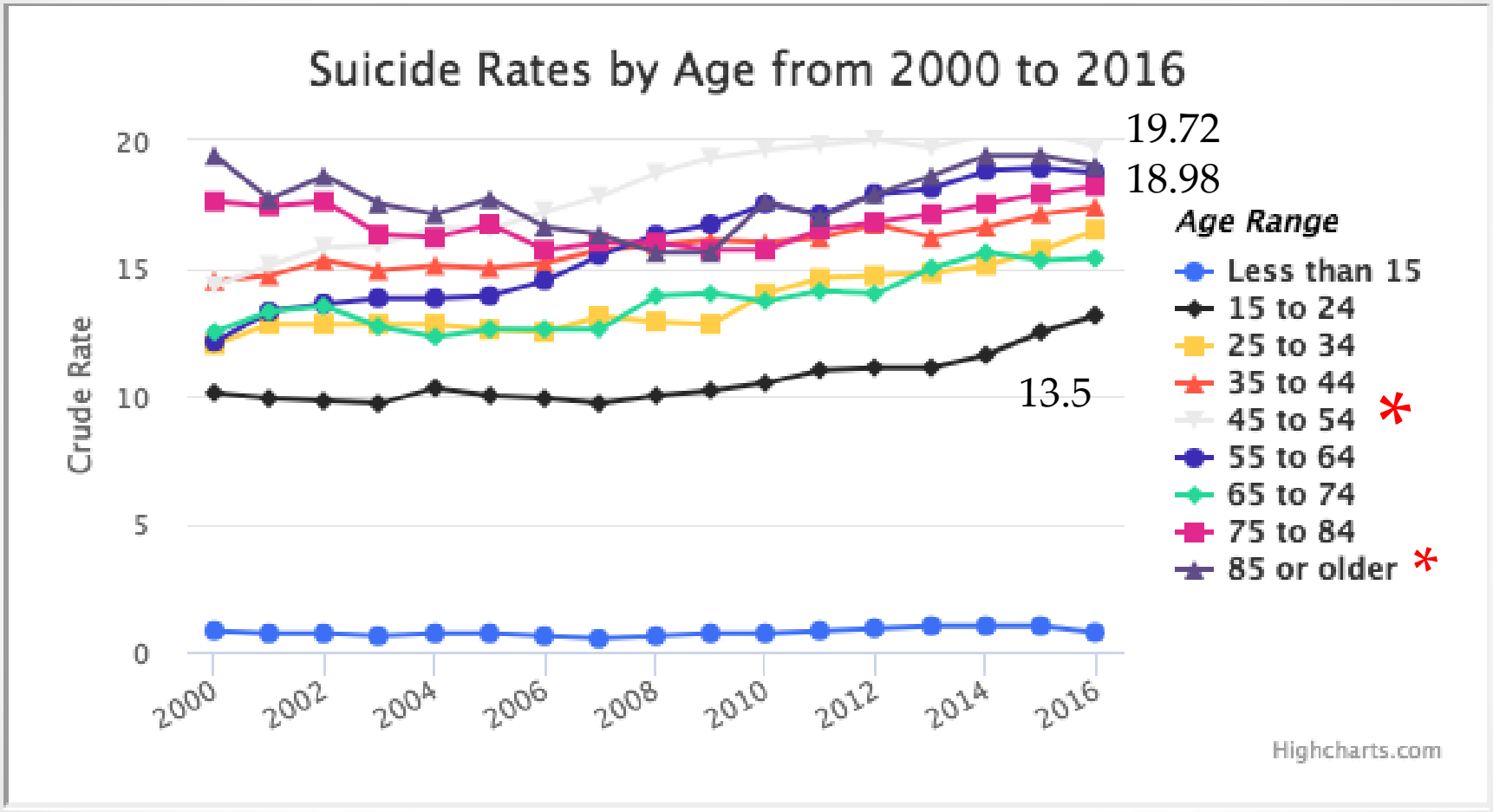
Deaths/100,000 people

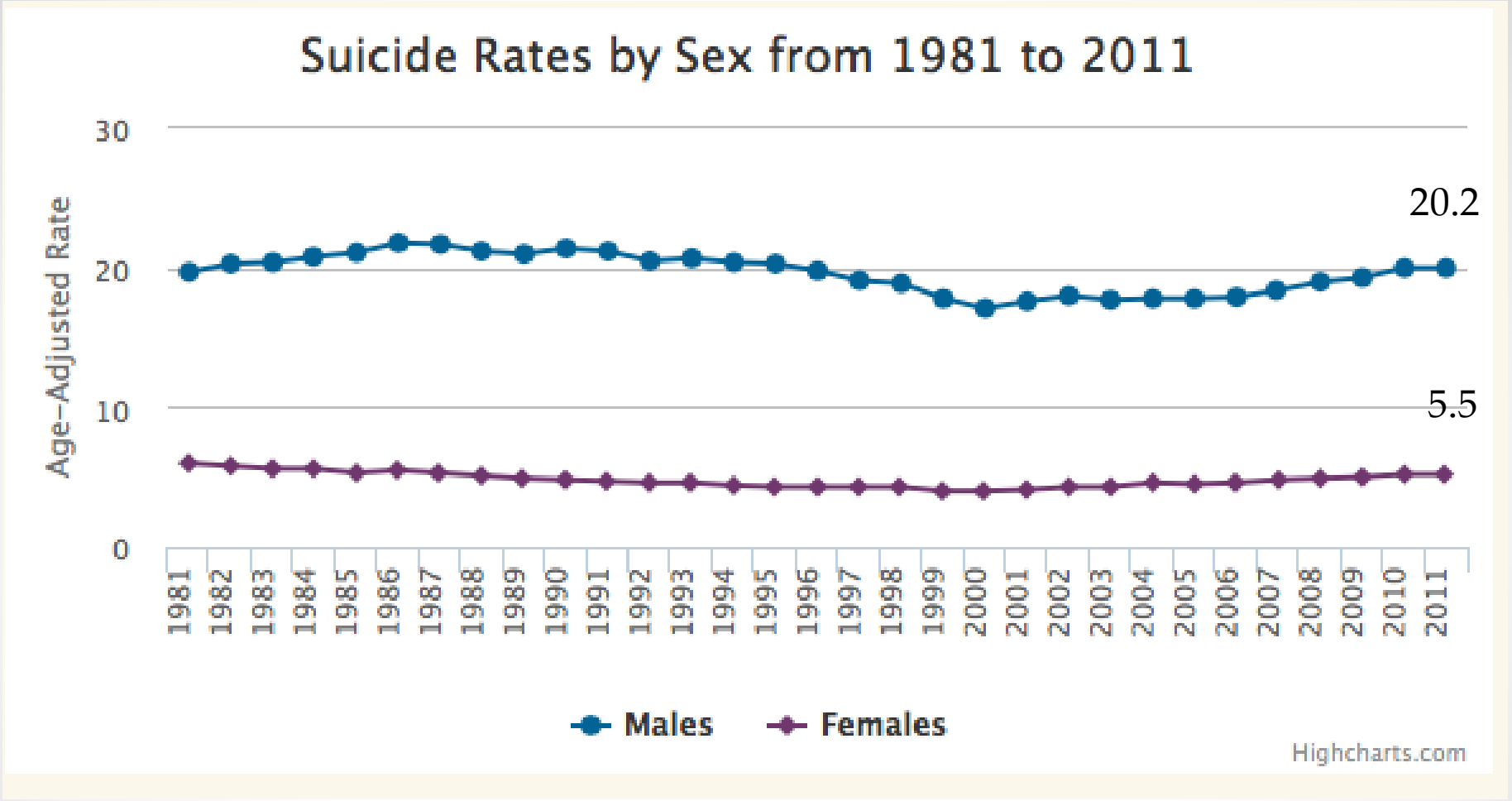
Rates continue to rise:

2014: 12.93

2015: 13.26

2016: 13.42


Suicide Rates by Age from 2000 to 2016
Crude Rate
20
15
10
5
0
2000
2002
2004
2006
2008
2010
2012
2014
2016
19.72
18.98
13.5
Age Range
Less than 15
15 to 24
25 to 34
35 to 44
45 to 54
55 to 64
65 to 74
75 to 84
85 or older
*
*
Highcharts.com


Suicide Rates by Sex from 1981 to 2011
Age-Adjusted Rate
30
20
10
0
20.2
5.5
1981
1982
1983
1984
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2010
2011
Males
Females
Highcharts.com

Suicide Facts & Figures:

Florida 2018*

On average, one person dies by suicide every three hours in the state.

Nearly twice as many people die by suicide in Florida annually than by homicide.

The total deaths to suicide reflect a total of 51,424 years of potential life lost (YPLL) before age 65.

Suicide cost Florida a total of **$2,841,739,000** of combined lifetime medical and work loss cost in 2010, or an average of **$1,018,910 per suicide death**.

*Based on most recent 2016 data from CDC. Learn more at **afsp.org/statistics**.

10th leading cause of death in Florida

3rd leading
cause of death for ages 15-24

2nd leading
cause of death for ages 25-34

4th leading
cause of death for ages 35-44

5th leading
cause of death for ages 45-54

8th leading
cause of death for ages 55-64

16th leading
cause of death for ages 65 & older

Suicide Death Rates

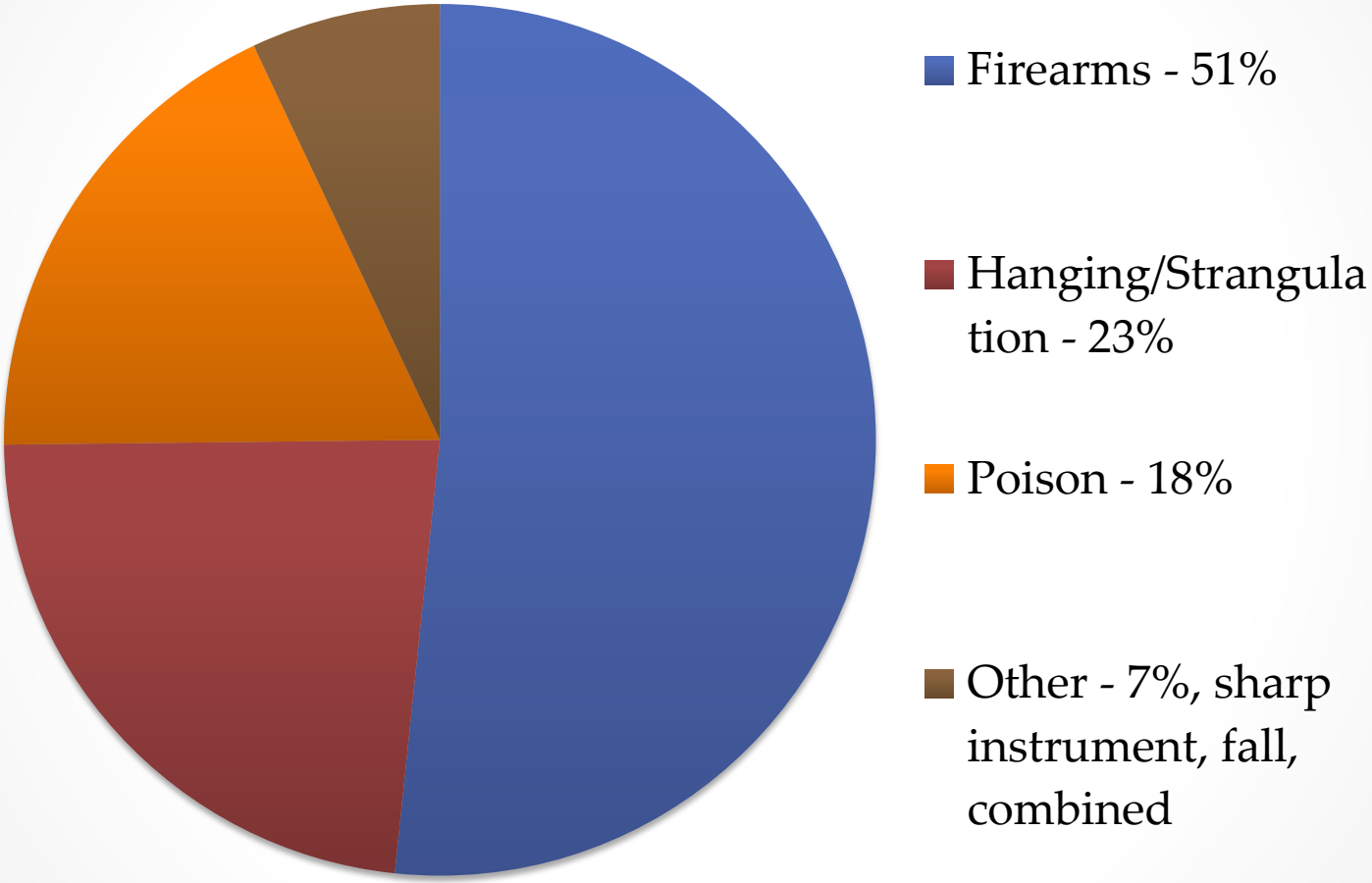
	Number of Deaths by Suicide	Rate per 100,000 Population	State Rank
Florida	**3,143**	**13.92**	**32**
Nationally	44,695	13.42	

American Foundation for Suicide Prevention

National Violent Death Reporting System

- State based surveillance
- Links Variables
  - Manners of death: Homicide, Suicide, Unintentional firearm, undetermined intent, legal intervention
  - Variables Analyzed
    - Manner, mechanism, circumstances, victimology, incident
- Multiple Source Documentation
- Goals
  - Collect and analyze data to monitor occurrence
  - Provide insight on reasons for violent deaths
  - Guide efforts to develop, implement & evaluate programs
  - Build and strengthen partnerships
  - Track progress

Methods of Injury



2016 NVDRS Results

- Precipitating Circumstances
  - Toxicology
    - Alcohol
    - Opiates
    - Antidepressants
  - Mental health problem
  - Recent crisis
  - Relationship or interpersonal conflict
  - Physical health problems
  - Job and financial stresses

TABLE 8. Number* and percentage† of suicide decedents who had received a diagnosis of a current mental health problem, by diagnosis — National Violent Death Reporting System, 16 states,§ 2010

Mental health problem	Male		Female		Total	
	No.	(%)	No.	(%)	No.	(%)
Depression/Dysthymia	2,044	(74.7)	974	(78.7)	**3,018**	**(75.9)**
Bipolar disorder	318	(11.6)	233	(18.8)	**551**	**(13.9)**
Schizophrenia	138	(5.0)	49	(4.0)	**187**	**(4.7)**
Anxiety disorder	284	(10.4)	159	(12.9)	**443**	**(11.1)**
Post-traumatic stress disorder	77	(2.8)	31	(2.5)	**108**	**(2.7)**
Attention deficit disorder/attention deficit and hyperactivity disorder	66	(2.4)	¶	¶	¶	¶
Eating disorder	¶	¶	10	(0.8)	¶	¶
Obsessive-compulsive disorder	¶	¶	¶	¶	**18**	**(0.5)**
Other	122	(4.5)	50	(4.0)	**172**	**(4.3)**
Unknown	243	(8.9)	101	(8.2)	**344**	**(8.7)**
Total decedents with a mental health problem	2,738		1,237		**3,975**	

* N = 3,975 (2,738 males and 1,237 females).

44% decedents with diagnosed mental health problems

** Only 1/3 were receiving treatment

33% left a suicide note

33% disclosed their intent before dying

21% history of previous suicide attempts

Barriers to Effective Care Mental Illness

- 350 million people globally suffer depression
- NAMI: 61.5 million Americans experiences mental illness in a given year
  - Fewer than half of affected persons receive treatment
  - 6% diagnosed with serious mental illness
  - Complex interaction of social, psychological & biological factors
- Lack of resources
  - Inaccurate assessment
  - Lack of trained health care providers
- Social stigma associated with mental disorders
- Substance abuse

Prevention Strategies

Strategies to Counter Risk Factors

1. Universal
   - Aim to increase access to health care
   - Effect social change
   - Promote mental health and community outreach
   - Reduce harmful use of alcohol, substances
   - Limit means to suicide
   - Promote responsible reporting
2. Selective
   - Train gatekeepers
   - Establish helplines
3. Indicated
   - Community support
   - Treatment & follow up for those leaving health care facilities
   - Education and training for health care workers
   - Identification & management of mental and substance use disorders

NAMI
National Alliance on Mental Illness

Comprehensive Prevention

- ***SUICIDES ARE PREVENTABLE***
- National Strategy for Suicide Prevention
  - Multi-sector education
  - Timely & useful surveillance
  - Mental disorder assessment and management
    - Evaluate and refer
  - Means restriction
  - Stigma reduction
  - Media guidelines

Comprehensive Prevention

- Raising public awareness
- Coordinated cross-sector suicide prevention activities
- Crisis intervention & post-vention
  - Extend suicide prevention action beyond the immediate crisis
    - Confirm referral appointments
    - Continue to monitor patients post-crisis
    - Close post-acute care follow-up, can help reduce the risk of a repeat suicide attempt and potential suicide

The Lifeline is **FREE**, confidential, and always available.

HELP a loved one, a friend, or yourself.

Community crisis centers answer Lifeline calls.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
www.samhsa.gov

Printed 2005 • Reprinted 2011
CMHS-SVP-0126

NATIONAL SUICIDE PREVENTION LIFELINE™

1-800-273-TALK (8255)

suicidepreventionlifeline.org

Learn the Warning Signs.

Suicide Warning Signs

These signs may mean someone is at risk for suicide. Risk is greater if a behavior is new or has increased and if it seems related to a painful event, loss, or change.

- Talking about wanting to die or to kill oneself.
- Looking for a way to kill oneself, such as searching online or buying a gun.
- Talking about feeling hopeless or having no reason to live.
- Talking about feeling trapped or in unbearable pain.
- Talking about being a burden to others.
- Increasing the use of alcohol or drugs.
- Acting anxious or agitated; behaving recklessly.
- Sleeping too little or too much.
- Withdrawing or feeling isolated.
- Showing rage or talking about seeking revenge.
- Displaying extreme mood swings.

Suicide Is Preventable.

Call the Lifeline at 1-800-273-TALK (8255).

With Help Comes Hope

Interactive Screening Program

- 15% of students suffer from depression and other mental disorders
- 10% have seriously considered suicide
- Web-based, proactive program
- Anonymous, online dialogue via secure internet protocol
- Confidential Stress & Depression Questionnaire
  - Self check quiz
- Personal written response from a campus counselor, offering options for evaluation and treatment
  - Online dialogue, telephone or in person meeting, referral for treatment or support services
-

AMERICAN FOUNDATION FOR Suicide Prevention

Action Alliance RPTF

- Partnership to explore barriers to progress and garner support for broad-based, strategic suicide prevention initiatives
- No reduction in suicide despite public-private prevention
- Complex and challenging behavior to study
  - Multidetermined and multifactorial
  - Defy simple models of etiology and pathogenesis
- Known: general epidemiology & potential risk factors
- Unknown: mutable risk factors, effective strategies for prevention

Silverman et al. Am J Prev Med, September 2014

Suicide Prevention Research

- Studies of effective interventions are needed
- Logistical challenges
  - Suicide is a rare event; studies powered to detect a reduction must be large
  - Difficult to identify high risk individuals
  - Bias: Study retention and withdrawals
- Ethical challenges
  - Exclusion of individuals with history of suicide
  - Expectation to report death and attempt as adverse events
  - Objection to use completed suicides as study endpoint
- Is zero suicide model achievable?
  - Is every suicide a failure of health care?

Sisti, D, Joffe, S. JAMA October 2018

Initial Findings

- Need for primary prevention
  - Most suicide attempts succeed on 1st attempt
- Sub-optimal results of Mental DO treatment
  - Focused on treating underlying DSM diagnosis
  - More treatment of mental do has not decreased rates
- DSM-5: 2 new diagnoses
  - Independent of disorder classification
  - Non-suicidal self-injury
  - Suicidal behavior disorder
- Proposed studies
  - pharmacologic study coupled with neurobiological techniques
  - functional neuroimaging, CNS spectroscopy, polysomnography, and genetic analysis

Prevention Programs

Prevention Efforts

- 20th century suicide prevention efforts were devoted exclusively to
  - Detecting distressed individuals
  - Treating individuals once they had attempted suicide or were peri-suicidal
- Scant evidence to suggest that these had any impact on saving lives
  - Knox KL, Conwell Y, Caine ED. If suicide is a public health problem, what are we doing to prevent it? Am J Public Health. 2004;94(1):37-45
- Proposed treating suicide prevention in manner similar to cardiovascular disease prevention efforts
  - Cultural, social, and political level rather than at the individual level
  - Continue to further refine acute treatments

Effectiveness & Program

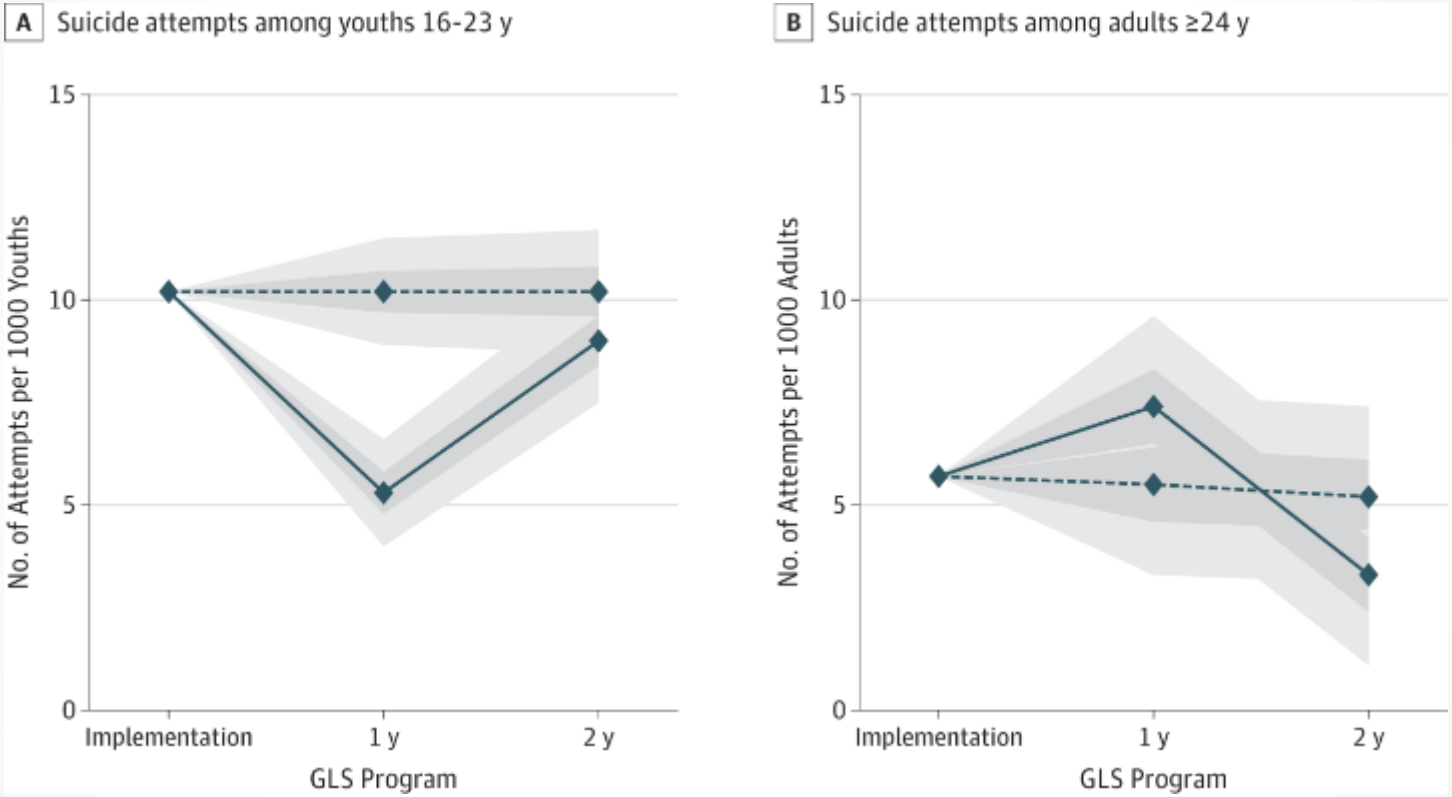
- Indicators of strategy's progress:
  - A percentage reduction in the suicide rate
  - A decrease in the number of hospitalized suicide attempts
  - The number of suicide prevention interventions successfully implemented
- Gatekeeper (GK) training
  - Non-behavioral health professionals
  - Community & professional gatekeepers
  - Review, Isaac et al. Study of 13 GK training programs showed training positively impacted knowledge, attitudes & skills in the short term, but with limited stability over time

Prevention Programming Efficacy Study

- Evaluate impact of the Garrett Lee Smith Memorial Suicide Prevention Program (GLS program) on rates of suicide attempts
- Comprehensive, community-based suicide prevention programs targeting youths aged 16-23
  - Gatekeeper training, MH awareness programs, linkages to services, programs for suicide survivors, crisis hotlines
- Results
  - 4.9 fewer attempts per 1000 youths [95% CI, 1.8-8.0; *P* = .003) in the year following implementation of GLS programs
  - No significant difference in suicide attempt rates of individuals > 23 yo
  - No evidence of longer-term differences in suicide attempt rates

JAMA Psychiatry. October, 2015

Results



Key: Solid line: GLS program implemented for 1 year, but not subsequent year
Dashed line: GLS program not implemented

Safety Planning Study

- Comparison of Safety Planning Intervention (SPI) with follow-up versus usual care of suicidal patients
- VA cohort comparison study of 1640 patients who visited the ED for suicide-related concerns
- SPI:

  Brief clinical intervention to reduce suicidal behavior through a prioritized list of coping skills and strategies
- 88% male, mean age 45-50 years old
- SPI+ was associated with a reduction in suicidal behavior and increased treatment engagement among suicidal patients following ED discharge
  - Half as likely to exhibit suicidal behavior (3.03 % vs. 5.29%)
  - Two times as likely to attend mental health treatment during the 6-month follow-up (OR 2.06, $p < .001$)

Stanley, B. et al. JAMA Psychiatry, July 2018

Impact of Social Integration

- Data from Nurses' Health Study, 1992-2010
- 72,607 nurses, 46 - 71 years of age, were surveyed about their social relationships with 7 item index
- Relative hazard of suicide was lowest in participants with highest & 2nd highest level of social integration (adj HR 0.23, adj HR 0.26)
- Increasing or consistently high levels of social integration were protective
- Limitations

Tsai AC, Lucas M, Kawachi I. Association between social integration and suicide among women in the United States [published online July 29, 2015]. JAMA Psychiatry

Treatment

- Pharmacotherapy
  - MDD, bipolar disorder, schizophrenia
  - Suicide mitigation
    - Clozapine, lithium, ketamine
- Psychotherapy
  - Cognitive behavior therapy (CBT)
  - Interpersonal therapy (IPT)
  - Behavioral activation (BH)
  - Cognitive behavioral analysis system of psychotherapy (CBASP)
- Treatment for Alcohol and Drug Abuse
  - When combined with depression, bipolar disorder or any mental disorder, alcohol and drug abuse increase suicide risk
  - Acute use of alcohol (AUA) confers 5-10 fold increased risk
- Adjunctive Treatments
  - ECT, rTMS, light therapy (SAD)

Physician Suicide

Physician Suicide

- Highest suicide rate of any profession
  - 28-40 per 100,000
  - Beginning in medical school
- Driven largely by higher rates of suicide in women
  - Rates of females = males
- Suicide rate among male doctors
  - 1.4 higher than men in general
- Suicide rate among female doctors
  - 2.5 – 4 times higher than women in general

Contributing Factors

- Higher prevalence of mood disorder and substance abuse
- High Stress
- Stigma
- Professional burden leads to social isolation
- Gender based harassment
- More completed suicides

AMA Initiative

- AMA House of Delegates (HOD) has called for a better understanding of patterns linked to physician suicide
  - Cite long work hours which lead to higher incidence of mental illness and burn out
  - 50% of residents and fellows subjected to workplace bullying
- Directed a committee to collect data to detect patterns that could predict suicide
- The goal is to help identify systemic factors which contribute to suicide, and ultimately, to save lives

"Medical students and families of physicians touched by suicide come out of the shadows to expose this silent epidemic and the truth about a sick healthcare system that not only drives our brilliant young doctors to take their own lives but puts patients lives at risk too"

Suicide Note

- Mitchell Heisman shot himself September 18, 2010, at age 35, as an "Experimental Elimination of Self-Preservation."
- Posthumously published 1905 page philosophical and intellectual justification for suicide
- Heavily-researched, probing and sometimes humorous exposition of the author's social, political and ethical philosophy
- "There is a very popular opinion that choosing life is inherently superior to choosing death. This belief that life is inherently preferable to death is one of the most widespread superstitions. This bias constitutes one of the most obstinate mythologies of the human species."

“Every word, every thought, and every emotion come back to one core problem: life is meaningless… The experiment in nihilism is to seek out and expose every illusion and every myth, wherever it may lead, no matter what, even if it kills us.’’

Challenge for Future

- Develop new, more nuanced research designs that address the "social" in the biopsychosocial medical model, in addition to the biology of "bioresearch"
- Begin to test and implement essential, broadly targeted preventive interventions

Thank you

Sources

- Schernhammer, Eva. "Taking their own lives—the high rate of physician suicide." N Engl J Med 352.24 (2005): 2473-6.