

PHYSICIAN MENTAL HEALTH

Preventing suicide and building resilience

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AMERICAN FOUNDATION FOR
Suicide Prevention

Disclosures

Disclosures/conflicts

- None (but AFSP funds 25% of all suicide studies)

Acknowledgments

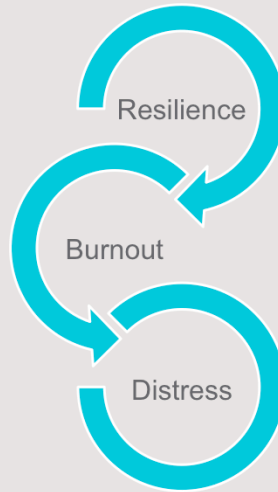
- Yeates Conwell
- David Jobes
- Matthew Nock
- Greg Brown

SUICIDE & RATES

PHYSICIAN SUICIDE

PREVENTION TARGETS

Mental Health: A Dynamic Model



Wellbeing and distress are on a continuum of mental health.

Over time, our individual underlying risk and protective factors interact with every day psychosocial events leading to a dynamic and complex interaction. While the human condition is on the one hand inherently and enormously resilient, there are specific and known risk factors that can impede that natural resilience. Some of these risk factors are genetic/biological/psychological on the individual level, and some are at the level of home, community, and work environment.

One Medical Center's History

- Our medical community experienced suicide losses
- Reached a turning point in 2002- death by suicide of a prominent UCSD faculty physician
- Ready to take action
- Institutional survey found significant distress, burnout, substance use, suicidal ideation

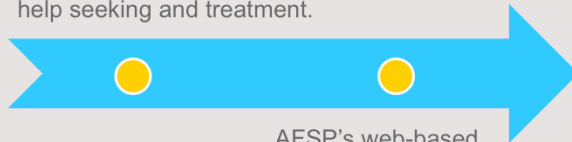
Before coming to AFSP, I served as a dean for students and med ed at UCSD, and an important part of my own path, is that we had lost a number of people to suicide over the years. By 2002 when a prominent burn surgeon took his life, which rocked our world, we had already noted the loss of several other colleagues over the prior decade, and while each one has unique circumstances, we started to wonder if we could do something to prevent further tragic losses.

The Medical Staff Executive Committee charged the Physician Well-Being Committee (PWBC) to conduct an anonymous survey.

Two-Pronged Prevention

EDUCATIONAL CAMPAIGN:

Focus- MH and suicide to destigmatize help seeking and treatment.



AFSP's web-based screening, assessment, and
REFERRAL PROGRAM

Goals:

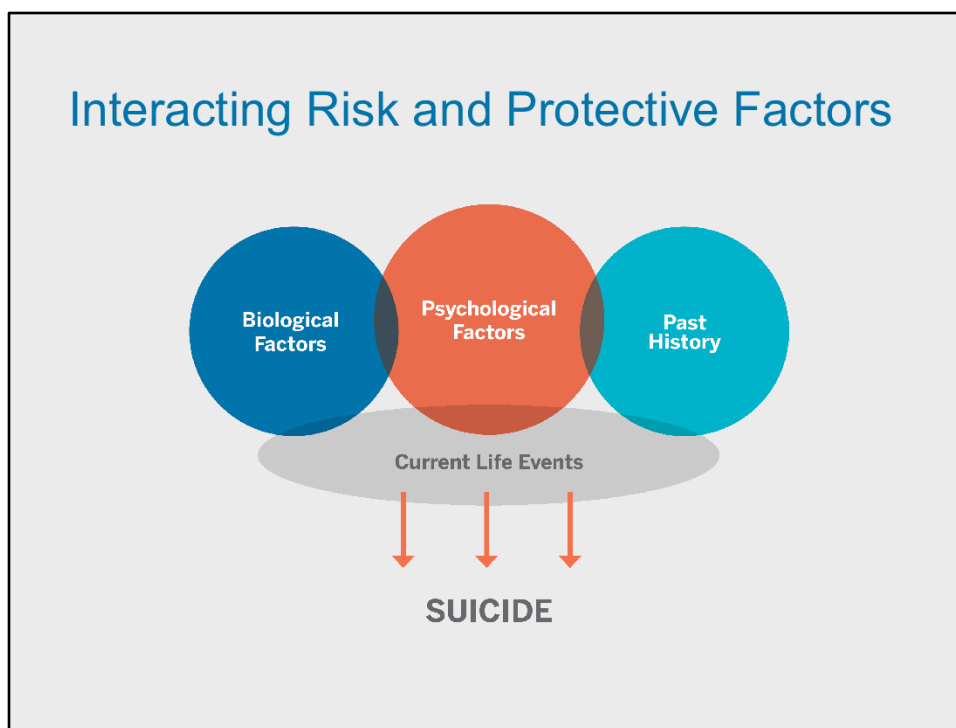
- Educate
- Destigmatize
- Optimize health
- Refer
- Improve MH
- Prevent suicide

The educational campaign includes Grand Rounds to all Clinical Depts, and other key groups such as residency program directors, housestaff and students.





A MODEL FOR SUICIDE



RESEARCH SHOWS THAT THERE ARE MULTIPLE, INTERACTING CAUSES/RFs for SUICIDE
 Here you can see the multi-factorial nature of suicide risk that starts with the underlying layers of:

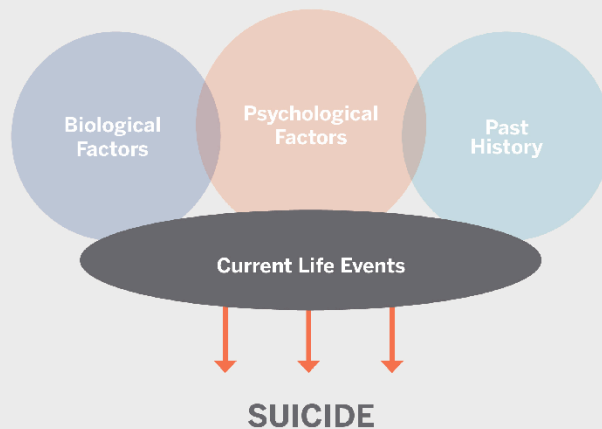
- biological factors (mental illness, genetics and biological predispositions related to serotonin, dopamine, HPA axis)
- psychological factors (such as traits like perfectionism, cognitive inflexibility, humiliation, ways of perceiving self and interpreting events, actions of others)
- past history (family dynamic/rejection, h/o childhood abuse, family history of health problems)

Then add the dynamic flow of multiple life issues and events, superimposed on those underlying risk factors:

- including relationships, financial, employment, onset or ongoing health problems, current trauma or loss
- for young people, stresses at home, school and with peer relationships, contagion-exposure to a peer or celebrity suicide

This layer of current life stressors may intersect with a person's underlying risk factors, such as a person who loses his job, and has a h/o mood disorder (biological), and whose identity and sense of self-worth is centered on his job (psychological-sense of self), and whose cognition tends to be inflexible, so he sees no way out of the situation. These factors can come together to lead to hopelessness, and a lack of problem solving or hope for the future. Add traits of aggression and drive on the hopelessness, and access to means, and you have a high risk situation.

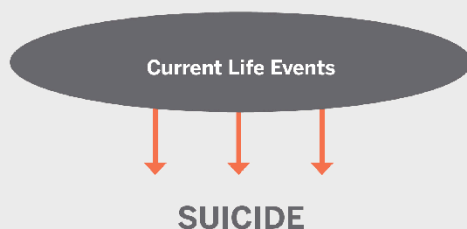
Interacting Risk and Protective Factors



We can see glimmers of underlying factors but sometimes they are clearer once you know what to look for. To the outside person or to the media, it can be very difficult to even see the underlying risk factors.

But the human mind seeks answers and closure, and we think (appropriately) in terms of cause and effect. So in most cases, a suicidal act or completed suicide is attributed primarily to external factors with only glimpses of the more invisible but critical issues. We must learn to recognize risk factors and warning signs so we can “connect the dots” that amount to elevated risk.

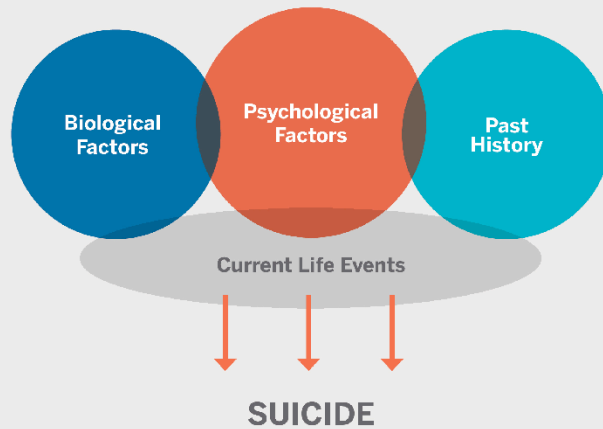
Interacting Risk and Protective Factors



Anguish and despair are extremely private, internal experiences. What gets expressed outwardly is highly variable, with some individuals wearing their emotions on their sleeve, and others keeping their actual thoughts and emotions fairly hidden from view. This is the reason paying attention to even subtle but distinct behavioral changes that represent a departure from the person's "usual self" is part of the education involved in suicide prevention.

And this is a way to understand the common misunderstanding about suicide being caused by a single event or loss, or the main focus being on external events.

Interacting Risk and Protective Factors



We will do better once we understand the warning signs, the signals for changes in MH and risk that are possible points of intervention.

Risk Factors for Suicide

- Mental illness
- Previous suicide attempt
- Serious physical illness/chronic pain
- Specific symptoms
- Family history of mental illness and suicide
- H/O childhood trauma
- Shame/despair
- Aggression/impulsivity
- Triggering event
- Access to lethal means
- Suicide exposure
- Inflexible thinking
- Genes - stress and mood

You can think of mental health disorders as **Necessary but not sufficient** when it comes to suicide.

50-60% of the MH problems in cases of suicide are mood disorders like depression and bipolar disorder

20% Sub Use disorders

10-15% Psychotic disorders

10% Personality D/Os like Borderline PD

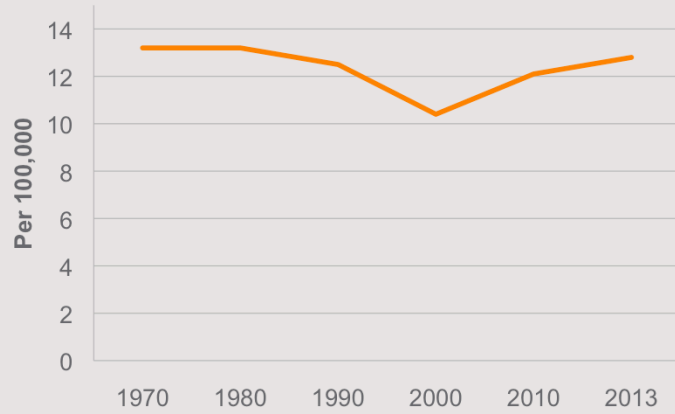
PTSD, Anxiety

Comorbidity between multiple MH conditions, and/or medical conditions is more common than not

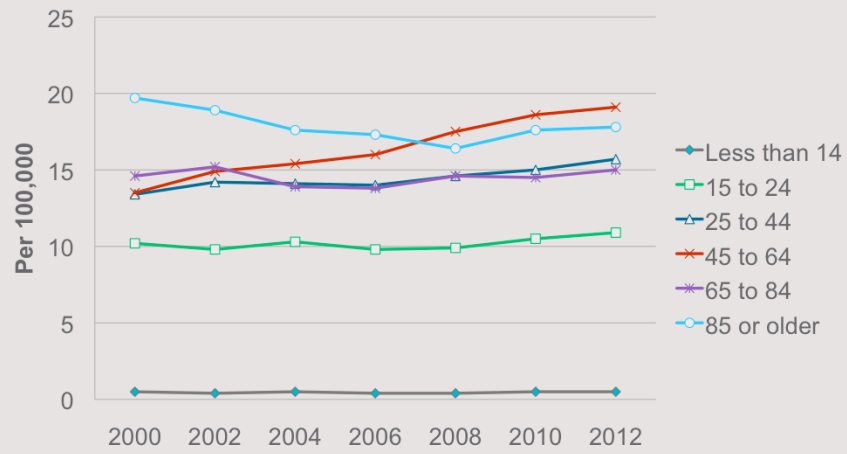
Protective Factors

- Social support
- Connectedness
- Strong therapeutic alliance
- Accessing mental health care
- Positive attitude toward MH treatment
- Coping skills
- Problem solving skills
- Cultural/religious beliefs
- Biological/psychological resilience

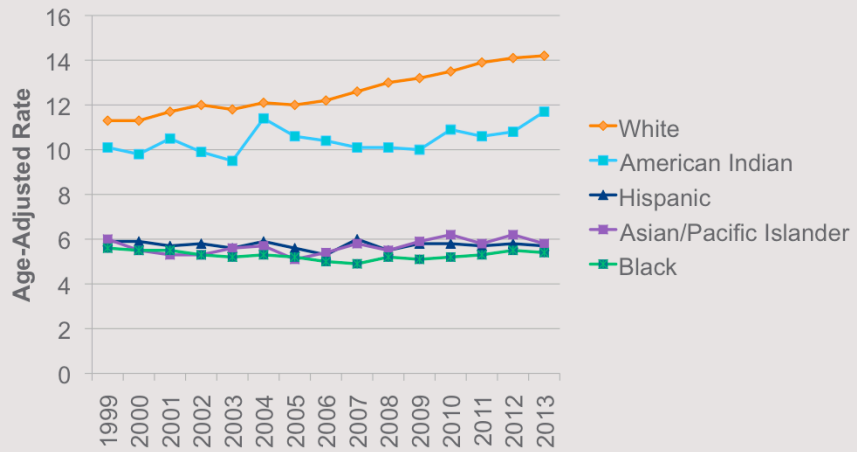
U.S. Suicide Rate 1970-2013



U.S. Suicide Rates by Age 2000-2012

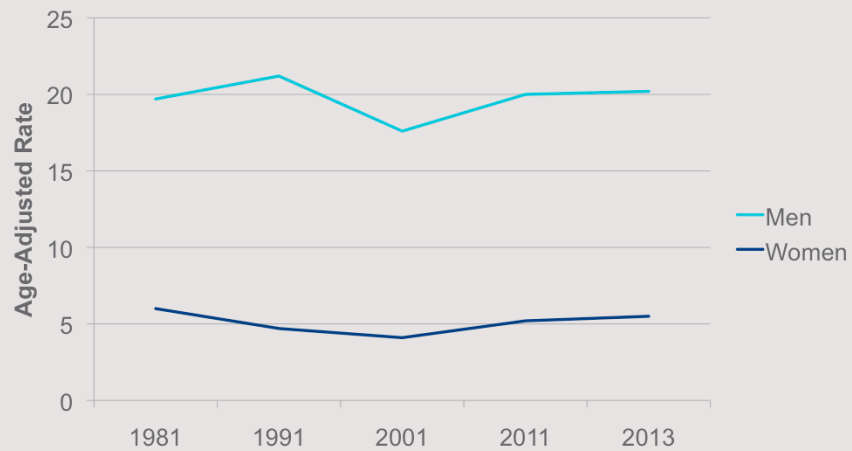


Suicide Rates by Race/Ethnicity 1999-2013



Role of CULTURAL FACTORS

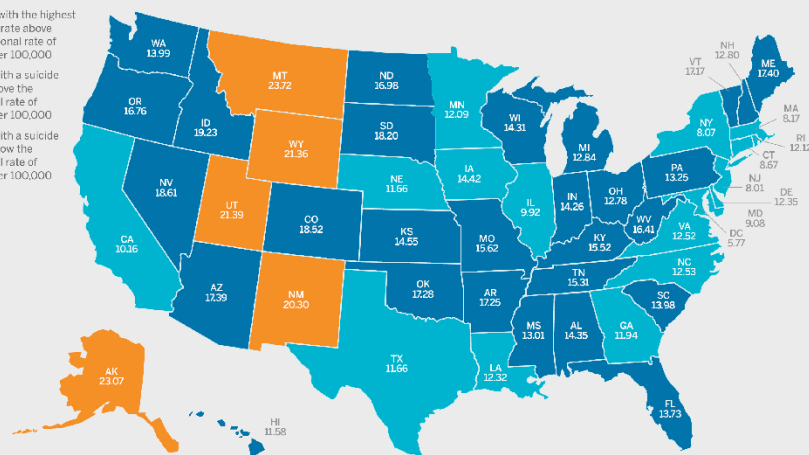
Suicide Rates by Sex 1981-2013



For physicians the gender gap is much more narrow since female physicians' suicide rate is 2-4X higher than non-physician females, and for males it's more modestly elevated.

Suicide Death Rates

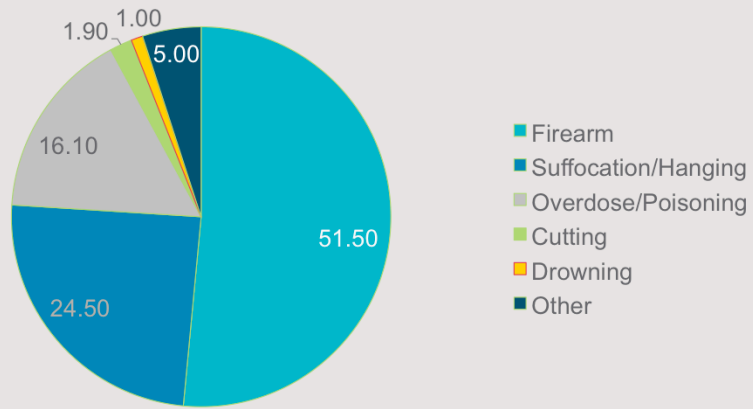
- States with the highest suicide rate above the national rate of 12.57 per 100,000
- State with a suicide rate above the national rate of 12.57 per 100,000
- State with a suicide rate below the national rate of 12.57 per 100,000



2013 data, released January 2015, CDC Web Based Injury Statistics Query and Reporting System (WISQARS)

There are regional cultural differences, differing firearms ownership rates, and differing levels of access to healthcare/MH care from one area of the country to the next. There are not only state by state differences in suicide rates, but county to county differences as well.

Methods of Suicide Death in U.S.



CDC 2013

Means Matter: Lethality

	Fatal	Nonfatal	Total	% Fatal
Firearm	16,869	2,980	19,849	85%
Suffocation	6,198	2,761	8,959	69%
Poisoning/overdose	5,191	215,814	221,005	2%
Fall	651	1434	2,085	31%
Cut/pierce	458	62,817	63,275	1%
Other	1,109	35,089	36,198	3%
Unspecified	146	2097	2,243	7%
Total	30,622	322,991	353,613	9%

<http://www.hsph.harvard.edu/means-matter/means-matter/case-fatality>

This table presents the estimated case fatality rate for different methods. Because it combines data sets that did NOT include attempts that did not present for medical attention, it overestimates the fatality rate for particular methods like overdose, since many people who overdose don't go to the ER.

This table covers all U.S. suicide deaths in 2001 and estimated visits to the emergency department (ED) for nonfatal self-harm (based on a nationally-representative sample of emergency departments). "Case Fatality Ratio" (% fatal) is the proportion of cases recorded in a year that are fatal. The ED estimate overstates ED-treated suicide attempts because non-suicidal self-harm cannot be disaggregated from actual suicide attempts; at the same time, **it underestimates nonfatal suicide attempts since many suicide attempts do not result in care.**

Source: Vyrostek SB, Anest JL, Ryan GW. Surveillance for fatal and nonfatal injuries—United States, 2001. *MMWR*. 2004;53(SS07);1-57.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5307a1.htm>

PHYSICIAN SUICIDE

Physician Mortality

Male U.S. physicians have a longer life span and lower rates of death due to many medical causes (COPD, liver disease, pneumonia) compared to other professionals and general population.

However, suicide as a cause of death is overrepresented in male physicians compared with other male professionals.

Frank et al, Am J Prev Med 2000

Erica Frank at Emory at the time, now at Univ BC, 2000 Natl Occupational Mortality Surveillance database. All deaths between '84-95.

Occup coded according to U.S. Census Bureau, and death coded by ICD-9.

National Occupational Mortality Surveillance database and are derived from deaths occurring in 28 states between 1984 and 1995

[Frank E¹](#), [Biola H](#), [Burnett CA](#). **Mortality rates and causes among U.S. physicians.** [Am J Prev Med.](#) 2000 Oct;19(3):155-9.

Abstract

CONTENT/OBJECTIVES: No recent national studies have been published on age at death and causes of death for U.S. physicians, and previous studies have had sampling limitations. Physician morbidity and mortality are of interest for several reasons, including the fact that physicians' personal health habits may affect their patient counseling practices.

METHODS:

Data in this report are from the National Occupational Mortality Surveillance database and are derived from deaths occurring in 28 states between 1984 and 1995. Occupation is coded according to the U.S. Bureau of the Census classification system, and cause of death is coded according to the ninth revision of the International Classification of Diseases.

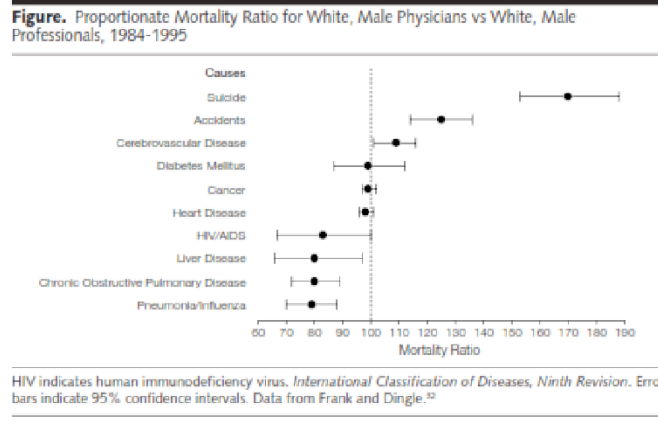
RESULTS:

Among both U.S. white and black men, physicians were, on average, older when they died, (73.0 years for white and 68.7 for black) than were lawyers (72.3 and 62.0), all examined professionals (70.9 and 65.3), and all men (70.3 and 63.6). The top ten causes of death for white male physicians were essentially the same as those of the general population, although they were more likely to die from cerebrovascular disease, accidents, and suicide, and less likely to die from chronic obstructive pulmonary disease, pneumonia/influenza, or liver disease than were other professional white men.

CONCLUSIONS:

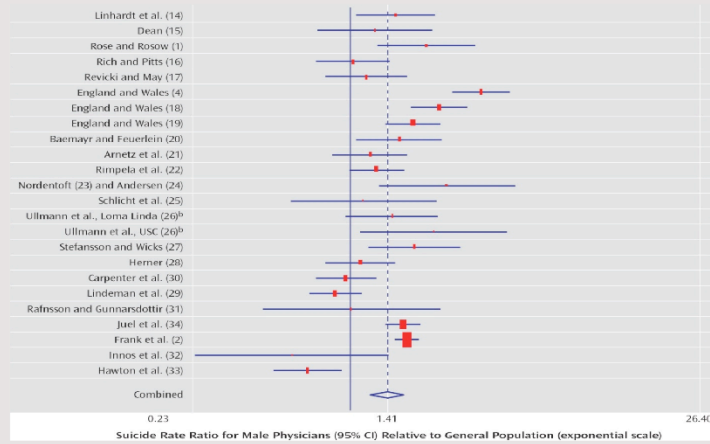
These findings should help to erase the myth of the unhealthy doctor. At least for men, mortality outcomes suggest that physicians make healthy personal choices.

U.S. Physician v Professional 1984-1995



Frank E, Mortality rates and causes among U.S. physicians.
Am J Prev Med 2000

Male Physicians v General Population



Male physicians/age matched males in
the general population = **1.41**

*Schernhammer E, Colditz G,
Am J Psych 2004*

Eva Schernhammer (Harvard Assoc Prof of Med and Epid)
Looked at studies from 1966-2003 of physician suicide death rates from any country.
Found 25 studies, avoided overlapping time frames and countries.

Included in this meta-analysis are 6 U.S. studies: Rose, Pitts, Rish and Pitts, GRO,
Ullmann, Frank. All U.S. rates are right shifted even further to the right of the dotted
line.

Physician Suicide

2013 NVDRS Study

2003-2008 NVDRS data from 17 states:

31,636 total, 203 MD

NVDRS = rich data set: psychosocial, psychiatric,
MH care, medical, substance abuse, medications

Multiple logistic regression analysis using physician
v non-physician professionals

Gold, Sen, Schwenk, Details on suicide among US phys: Data from the Natl Violent
Death Reporting System, Gen Hosp Psych 2013

The National Violent Death Reporting System (NVDRS) is implemented in 32 states (formerly only in 17 at the time of this study). It is an important suicide surveillance mechanism and combines info from multiple sources: death cert, coroner data, medical examiner info, toxicology, law enforcement.

Picture of Physician Suicide

Mental disorders (depression)- as highly prevalent as in other suicide deaths, substance abuse lower 14% v 23%

Methods- **OD**/poisoning 23.5% v 18%
and more lethal- attempt/death ratio much lower

MH conditions same to sl elevated, but low rates AD med

Psychosocial: **Job problem 3x higher**, crisis/bereaved lower

Tox- much higher presence of BZD, barb, antipsychotics
(OR 21-40)

Gold, Sen, Schwenk, Details on suicide among US phys: Data from the Natl Violent Death Reporting System, Gen Hosp Psych 2013

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3549025/#!po=34.0000>

Non-physician were non-MD professionals.

Physicians were at significantly higher odds than the non-physicians of having antipsychotics (OR:28.7, CI:7.94–103.9, $p<0.0005$), benzodiazepines (OR:21.0, CI: 11.4–38.6, $p<0.0005$), or barbiturates (OR:39.5, CI:15.8–99.0, $p<0.0005$) present on toxicology testing. There was no significant difference with respect to antidepressants, opiates, amphetamines, cocaine. Physicians were less likely to have blood alcohol level above 0.08 percent.

Study methodology could not discern self-prescribing v in treatment.

Other studies find low rates of MH care seeking, and higher rates of self and colleague-prescribing (Adams Int J Soc Psych 2010 and Schwenk J Clin Psych 2008)

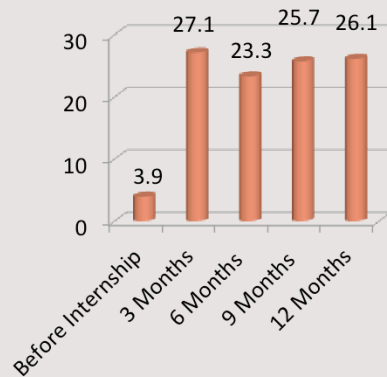
It is speculated that physician suicide rates may be even higher due to miscoding on death certificates, sometimes deliberately. A death can be coded as an accidental OD rather than intentional.

Depression During Internship

Specialty (N=740)

- Internal medicine 358 (48.5)
- General surgery 98 (13.3)
- OB/gynecology 42 (5.7)
- Pediatrics 94 (12.7)
- Psychiatry 63 (8.5)
- Emergency medicine 47 (6.3)
- Medicine/pediatrics 19 (2.6)
- Family medicine 19 (2.6)

Percentage with "Depression" (PHQ >10)



Sen et al. Arch Gen Psych 2010

Mean PHQ-9 increased from 2.4 to 6.4

Sen S et al. ArchGenPsychiatry. 2010;67(6):(doi:10.1001/archgenpsychiatry.2010.41)

Context: Although the prevalence of depression among medical interns substantially exceeds that of the general population, the specific factors responsible are not well understood. Recent reports of a moderating effect of a genetic polymorphism (5-HTTLPR) in the serotonin transporter protein gene on the likelihood that life stress will precipitate depression may help to understand the development of mood symptoms in medical interns.

Objectives: To identify psychological, demographic, and residency program factors that are associated with depression among interns and to use medical internship as a model to study the moderating effects of this polymorphism.

Design: A prospective cohort study.

Setting: Thirteen US hospitals.

Participants: Seven hundred forty interns entering participating residency programs.

Main Outcome Measures: Subjects were assessed for depressive symptoms using the 9-item Patient Health Questionnaire (PHQ-9), a series of psychological traits, and the 5-HTTLPR genotype prior to internship and then assessed for depressive symptoms and potential stressors at 3-month intervals during internship.

Results: The PHQ-9 depression score increased from 2.4 prior to internship to a mean of 6.4 during internship ($P<.001$). The proportion of participants who met PHQ-9

criteria for depression increased from 3.9% prior to internship to a mean of 25.7% during internship ($P<.001$). A series of factors measured prior to internship (female sex, US medical education, difficult early family environment, history of major depression, lower baseline depressive symptom score, and higher neuroticism) and during internship (increased work hours, perceived medical errors, and stressful life events) was associated with a greater increase in depressive symptoms during internship. In addition, subjects with at least 1 copy of a less-transcribed 5-HTTLPR allele reported a greater increase in depressive symptoms under the stress of internship ($P=.002$).

Conclusions: There is a marked increase in depressive symptoms during medical internship. Specific individual, internship, and genetic factors are associated with the increase in depressive symptoms.

Factors Associated with Depression During Internship

Predictors of Increased Depressive Symptoms

Baseline Factors

- Neuroticism
- Personal history of depression
- Baseline depressive symptoms
- Female sex
- US medical graduate
- Difficult early family environment
- 5-HTTLPR polymorphism

Within-Internship Factors

- Mean work hours
- Medical errors
- Stressful life events

Sen et al, Arch Gen Psych 2010

(PHQ-9) Depression Scores

Stratified by the Presence of at Least 1 Copy of a 5-HTTLPR Low-Functioning Allele.



Low = at least one low functioning allele

High/high = 2 high functioning alleles

SUICIDE RATES: THE ROLE OF CULTURE

Cultural Beliefs and Stigma

Suicide rates linked to cultural beliefs

Dutch study of regions with high and low suicide rates

Stigma- strongly inversely correlated with help seeking

Region with a higher suicide rate- stigma and shame about MH problems much higher, help seeking lower

Stigma reduction core component of successful suicide prevention programs (USAF 33% 7 yrs, UCSD)

Reynders A, et al. Attitudes and stigma in relation to help-seeking intentions for psych problems in low and high suicide rate regions. Soc Psychiatry and Psych Epid 2014
Knox et al, BMJ 2003, Am J Public Health 2010
Moutier et al, Acad Med 2012

Stigma reduction as a core tenant of effective suicide prevention strategy:

Prevention programs that have demonstrated impact on suicide rates or proxies such as suicidal behavior include stigma reduction. For example, in the US Air Force suicide prevention program, stigma reduction was a prominent theme in many of its 11 tactics. From 1996 through 2002, a 33% reduction in suicides was accomplished (Knox 2003). By reducing stigma and raising awareness among all levels of the force, this program took an early population-based intervention approach and taught members how to intervene at the first signs of distress or dysfunction, possibly long before the risk of suicide was imminent; while also recognizing more critical acute signs of suicide risk. Stigma was addressed in the leadership, throughout the ranks, and was also given the backing of policy changes that protected the privacy and professional reputation of those who were referred for help. (Knox 2003) In this approach, stigma reduction is a prominent and central tenant around which many educational efforts, policy change, individual and group behavior is shaped in order to become a safety net to recognize suicide risk and prevent suicides. This is very similar to the approach toward suicide prevention in a physician population I co-lead at the University of California, San Diego School of Medicine (Moutier 2012), which I'm delighted to say is still going strong.

Studies of stigma and suicide rates in different geographical regions:

Methodologically less rigorous than prospective study design, are the retrospective and cross sectional analyses that look for associations between factors. By using a statistical approach called multiple logistic regression analysis, the odds that particular factors relate to each other can be calculated. In a Dutch study of stigma and help seeking, **Reynders et al compared various regions of high and low suicide rates within the Netherlands, and found that in regions with low suicide rates, people have more positive attitudes toward help seeking and experience less self stigma and shame about mental health problems. Conversely, in the region with a higher suicide rate, sense of stigma and shame about mental health problems were**

Depression, Stigma and Suicidal Ideation in Medical Students

- **Survey of 505/769 (66%) U. Mich. medical students**
- **14% moderate/severe depression**
 - 18% women vs. 9% men ($p < .001$)
 - 43% students with moderate/severe depression considered dropping out of school (6% of others; $p < .001$)
- **4% seriously considered suicide while in medical school**
 - 8% of 3rd and 4th year students ($p < .001$)
- **Minority receiving treatment**
 - 17% of those with moderate/severe depression
 - 18% of those seriously considering suicide

Schwenk et al, JAMA 2010

The prevalence of self-identified depression in University of Michigan medical students is consistent with that found in several prior studies, approximately 10% to 25% depending on severity and the specific instruments used.^{4-5,10-12} Most students with high depression scores or who had thoughts about suicide did not report a current or past diagnosis or treatment of depression. However, the self-perception of previous depressive episodes, even if not formally diagnosed, was significantly associated with both high depression scores and the prevalence of suicidal thinking. These results suggest the importance of developing a medical school culture in which medical students have the opportunity to discuss their mental health concerns, irrespective of actual diagnosis or treatment, in a safe and confidential way. Where this discussion might best occur is unclear because potential stigma is seen as coming from several sources, including other students, faculty members, and counselors. Many medical schools have small-group settings led by faculty mentors, but approaching these issues in such a venue may have risks and unintended consequences that would need to be explored before implementation.

The prevalence of depressive symptoms is significantly higher in female than in male medical students, consistent with previous studies of medical students and physicians.^{3-5,10-11} The risk of suicidal ideation was also higher in female students, although not reaching statistical significance. These findings are consistent with the known increased risk of suicidal ideation as well as suicide completion in female physicians.¹⁵ When combined with the finding that men were more likely than women to agree that depressed medical students may be dangerous in their patient care and are undesirable members of the medical care team, these results suggest potential directions for further study regarding sex differences in how medical students experience their educational environment.

There are also differences between first- and second-year (preclinical) and third- and fourth-year (clinical) medical students in their views of depression, with preclinical students more likely to endorse that depressed medical students would provide inferior care to their patients, are unable to cope with medical school stress, and are less intelligent than their peers. These results could reflect the anticipatory anxiety experienced by preclinical students as they look ahead to the clinical years or could suggest that medical students may become more accepting and supportive of depressed students as they become more clinically knowledgeable and experienced. Educational, preventive, and clinical interventions may need to be framed differently for preclinical than for clinical students.

Access and Barriers to Care (1)

Low rates of seeking help among medical students:

- Only 22 percent of those screening positive for depression used mental health services
- Only 42 percent of those with suicidal ideation received

Reasons:

- lack of time (48%)
- lack of confidentiality (37%)
- stigma (30%)
- cost (28%)
- fear of documentation on academic record (24%)

Gross et al, Arch Intern Med 2000

The minority of medical students screening positive for depression or suicidal ideation receive mental health services. Lack of time, cost, confidentiality concerns, stigma and fears of punitive sanction are the most often cited barriers. All of these barriers can be removed or at least diminished by concerted action "from the top down."

Access and Barriers to Care (2)

Among practicing physicians, barriers to mental health care include:

- Discrimination in medical licensing
- Hospital privileges
- Health insurance
- Malpractice insurance

35 percent of physicians do not have a regular source of health care

Miles SH, JAMA 1998; APA, Am J Psych 1984

“Do State Medical Board Applications Violate the Americans with Disabilities Act?”

Robin Schroeder et al, Acad Med 2009

Content Analysis of 51 medical allopathic licensing applications

Found that less than half states Med Licensing application questions followed the basic standards of ADA of 1990

- Focus on impairment of fxn and safe practice
- Time limit
- Off limit topics

Stigma: a distorting force

Stigma Variable	% non-depressed students saying "yes"	% depressed students saying "yes"
Telling a counselor I am depressed would be risky	17	53
If I were depressed, I would seek treatment	87	46
Seeking help for depression would make me feel less intelligent as a medical student	21	46
If depressed, fellow students would respect opinions less	24	56
If depressed, application for residency would be less competitive	58	76
Medical students with depression can snap out of it if they wanted to	1	8
Depression is a sign of personal weakness	7	17

Schwenk et al, JAMA 2010

This study provides detailed characterization of the stigma perceived by medical students reporting depression and the differences between depressed and nondepressed students in their beliefs about the stigma of depression. Compared with students with low self-identified depression, students with high scores more frequently agreed that the opinions of depressed medical students would be less respected, that the coping skills of depressed medical students would be viewed as less adequate, that they would be viewed as less able to handle their responsibilities by faculty members, and that telling a counselor about depression would be risky. Students with high scores would also be less likely to seek treatment if depressed than would students with low scores. These data could reflect the cognitive distortion known to occur in patients with depression,³² such that depressed students could have an inaccurate and excessively negative view of how they are viewed by other students. The data could also indicate an accurate perception by depressed students that they are, in fact, viewed as less capable. The findings may reflect a medical school environment in which depressed students are stigmatized because of their disease rather than on the basis of performance. In such an environment, revealing depression to friends, faculty members, and residency program directors could have real and adverse consequences.

These results suggest that new approaches may be needed to reduce the stigma of depression and to enhance its prevention, detection, and treatment. The characteristics of medical education emphasizing professional competence and outstanding performance might be explored as reinforcing, rather than potentially sabotaging, factors in the creation of a culture that promotes professional mental health. The effective care of mental illness, the maintenance of mental health and effective emotional function, and the care of professional colleagues with mental illness could be taught as part of the ethical and professional responsibilities of the outstanding physician and become a critical component of the teaching, role modeling, and professional guidance that medical students receive as part of their curriculum in professionalism.

PREVENTION TARGETS

Education

Stakeholders, mental health, resources,
policies, self-Rx

Mental healthcare barrier reduction

Privacy, access, cost

Culture change

Safety, respect, support

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