



When Doctors Struggle: Current Stressors and Evaluation Recommendations for Physicians Contemplating Suicide

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10 **When Doctors Struggle: Current Stressors and Evaluation Recommendations for Physicians**
11 **Contemplating Suicide**

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When Doctors' Struggle:

Current Stressors and Evaluation Recommendations for Physicians Contemplating Suicide

Abstract

Objective: Document current risk factors associated with physicians' suicide ideation among a group of doctors enrolled in a Physician Health Program.

Methods: Retrospective cohort study drawn from administrative data. Compared intake information between doctors who reported recent thoughts of suicide (n=70) and those who did not (n=1,572) using adjusted regression analysis.

Results: Current stressors included personal, financial, health and occupational problems; ideation was more likely with multiple stressors. Physicians endorsing suicidal ideation lacked personal supports and scored differently on Short Form-36 measures.

Conclusions: Evaluators treating physicians should assess enduring risks and current stressors, particularly multiple stressors, to help detect suicidal patients. Current stressors should not be viewed as transitory and it is critical to bring in collateral information.

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3 According to the Centers for Disease Control and Prevention, suicide is the 10th leading
4 cause of death in the United States (U.S.); in 2013 nearly 41,000 people died by their own hand
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6 - equal to 1 suicide every 13 minutes.(Centers for Disease Control and Prevention 2013) In
7
8 general, men are 3.5 times more likely to die by suicide than women, although variations by
9
10 subgroup exist.(Nock, Borges et al. 2008) Suicide rates have been reported to be particularly
11
12 high in some professional and executive groups(Burnett and Swanson 1995) and positively
13
14 correlate with higher levels of education.(Pompili, Vichi et al. 2013) Physicians, in particular,
15
16 have an elevated risk of suicide compared to the general public.(Pitts, Schuller et al. 1979,
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18 Lindeman, Laara et al. 1996, Frank, Biola et al. 2000, Schernhammer and Colditz 2004, Stack
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20 2004, Hem, Haldorsen et al. 2005, Petersen and Burnett 2008) Unlike trends in the community,
21
22 the rate of suicide among female physicians is substantially higher than their female
23
24 counterparts.(Hawton, Clements et al. 2001, Schernhammer and Colditz 2004) Certain
25
26 specialists, such as psychiatrists and anesthesiologists, may be at an increased risk of
27
28 suicide.(Hawton, Clements et al. 2001, Torre, Wang et al. 2005) Suicidal ideation, which often
29
30 precedes suicide and amplifies the risk for death by suicide, has been shown to be 1.5 to 3.0
31
32 times more common among U.S. surgeons than the general population.(Shanafelt, Balch et al.
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34 2011)
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46 For some, physicians' elevated risk of suicide may come as a surprise. Many believe that
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48 doctors have fewer problems and more advantages than the general population (Ross and
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50 Lauritsen 1985) and, therefore, are less susceptible to this type of behavior. While it is
51
52 unknown why suicide rates are elevated among physicians, some consider the culture of
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54 medicine to be a factor.(Silverman 2000, Austin, van den Heuvel et al. 2013) Physicians often
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3 possess compulsive personality traits, such as feeling an exaggerated sense of responsibility and
4
5 perfectionism. While these characteristics promote thorough and conscientious care that is
6
7 beneficial in medical practice, they may also lead physicians to feel vulnerable, overwhelmed,
8
9 and manage stress poorly. Often, physicians are reluctant to take vacations, have trouble
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11 balancing work-family commitments, and frequently believe that they are "not doing
12
13 enough."(Gabbard 1985) Myers and Gabbard demonstrated that such personality traits are
14
15 linked to depression, burnout, and hopelessness - factors often associated with suicide.(Myers
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17 and Gabbard 2008) The American Medical Association (AMA) has long advocated for
18
19 improving our knowledge about better caring for physician populations.(American Medical
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21 Association 1973, American Medical Association 1987)
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28 Risk factors for suicide refer to characteristics that have been empirically correlated with
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30 suicidality and are usually static and persistent. Often, risk factors put a strain on one's life and
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32 impair his or her ability to cope; in other words, risk factors can undermine one's resiliency
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34 during times of hardship. While these indicators alone cannot predict suicide, they may help us
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36 understand who is more vulnerable when distressed. Suicide risks in the general public include,
37
38 but are not limited to, age, gender, psychiatric disorders, abuse history, and prior
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40 attempts.(American Foundation for Suicide Prevention 2016, Centers for Disease Control 2016)
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42 A growing number of studies illustrate emerging patterns in physicians' risk for suicide.
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48 Silverman and colleagues reported that physicians who commit suicide are demographically
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50 similar to the general public, with the exception of gender.(Silverman 2000) Several studies link
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52 physician suicide to psychiatric illnesses.(American Medical Association 1987, Silverman 2000,
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54 Hawton, Malmberg et al. 2004, Agerbo, Gunnell et al. 2007, Gold, Sen et al. 2013, Iannelli,
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3 Finlayson et al. 2014) Less understood is the influence of recent stressors on physicians' risk of
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6 suicide. It appears that physicians who commit suicide are likely to report difficulties at
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9 work.(American Medical Association 1987, Silverman 2000, Hawton, Malmberg et al. 2004,
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11 Gold, Sen et al. 2013) Other indicators may also exist but are not well documented. Hawton
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13 and the AMA showed that those who commit suicide are more likely to have relationship and
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15 financial problems(Hawton, Malmberg et al. 2004) while the AMA established that doctors are
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17 likely to suffer from a physical illness and lack important social supports at the time of their
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21 suicide.(American Medical Association 1987)
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24 The purpose of this investigation was to examine the relationship between doctors'
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26 suicide ideation and their current stressors. While it is true that most people who think about
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29 suicide do not initiate a suicide attempt, it is considered a significant risk factor(Beck, Kovacs et
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31 al. 1979) and may be a particular concern for doctors, whose specialized knowledge of
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33 toxicology and unique access to lethal substances make it more likely that they will complete
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36 suicide attempt. Suicidal ideation is also important to look at because it offers the opportunity
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39 for intervention and may reduce the onset of further problems or negative outcomes. The
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41 information gained here is immediately transferable to those working with physician patient
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44 populations, particularly during the clinical evaluation. Evaluations provide the opportunity to
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47 gather vital background information to make appropriate diagnoses and treatment
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50 recommendations that, in turn, can reduce the probability of negative events. We conclude
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60 with evaluation recommendations specifically targeted to this population.

METHODS

This retrospective cohort study examined intake information from physicians who presented to a physician health program (PHP) in Colorado. We extracted data from 2003 (when computer-based intakes began at the program) thru June 30, 2014 (1,642 unique cases), comparing physicians with and without past month suicidal ideation. The Colorado Multiple Institutional Review Board approved this work.

Intake Data

The PHP intake procedure in Colorado consists of two steps. First, physicians new to the program complete a computer-based intake tool that gathers information in six broad areas: 1) background (social demographics, contact information); 2) profession (employment status, education); 3) military experience; 4) family history and marriage; 5) health history (activities of daily living, physical and behavioral impairments, substance use, past treatment); and 6) current and past legal issues (prior convictions, medical liability complaint history, medical license(s) by state). Three questions in the tool ask specifically about suicide: "Have you ever seriously considered suicide?", "If yes, have you thought about suicide in the past month?", and "Have you ever attempted suicide?." The tool includes questions from the Medical Outcomes Study Short Form 36 (SF-36) to assess general functioning in addition to modified questions from the Composite International Diagnostic Interview (CIDI) to assess substance use. Second, participants undergo a thorough, in-person mental health evaluation by a staff psychiatrist. Information from the computer-based intake tool and the in-person evaluation are entered into an administrative database.

Physician Cohort

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3 We compared demographic and clinical characteristics between two groups –
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5 participants who reported recent (past month) thoughts of suicide and those who did not.
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7 Inclusion criteria consisted of physicians who responded affirmatively to the intake question,
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9 “Have you thought about suicide in the past month?” (n= 70, 4.3%). We focused on recent
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11 ideation because it provides the best opportunity to identify risk factors that occur while the
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13 individual is actively thinking about suicide and, therefore, those that are most appropriate to
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15 address in treatment referrals and recommendations. Participants who did not report past
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17 month ideation were included in the comparison group (n=1,572, 95.7%).
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23 **Covariates**

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25 The demographic items available in the administrative database included: gender
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27 (female, male), age category (20s, 30s, 40s, 50s, 60 and up), race/ethnicity (Caucasian/not
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29 Caucasian), and practice specialty (practice specialty is not a CDC-listed risk factor). Current
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31 risks included reason for presenting to the PHP (mood disorder and/or substance use [proxies
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33 for current depression and substance abuse], situational stressors (financial, health, legal,
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35 personal, occupational), personal supports (personal support, no personal support), and
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37 compulsive behaviors (eating, gambling, sex, spending). We examined MOS Short Form-36
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39 subscale composite scores for mental health functioning and physical health functioning (MCS
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41 and PCS, respectively). Using scoring techniques developed by Ware and colleagues,(Ware,
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43 Snow et al. 1993) higher scores on the Short Form-36 indicate better health.
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51 Historical experiences were not the focus of the study, but examined in order to
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53 supplement our understanding of physician suicide. Historical experiences included prior
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3 suicide attempts (prior attempt/no prior attempt), abuse history (sexual, physical, verbal), and
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5 family history of mental health disorders (substance use, mood disorder, anxiety disorder).
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8 **Analysis**

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10 First, we examined demographic differences between groups using Chi-square analysis.
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12 Controlling for any significant demographic differences, we then we examined group
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14 differences for current and historic risks using logistic regression. We ran separate regression
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16 tests for each covariate of interest. All tests were conducted using IBM SPSS software, version
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22 **RESULTS**

23 **Demographic Factors**

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28 Gender was the only significant demographic difference between physicians with past
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30 month suicidal ideation and those without (Table 1). Specifically, women were more likely to
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32 report recent thoughts of suicide than men (7% and 3.2%, $X^2=11.929$, $p < .001$). Physicians with
33
34 past month ideation presented to the PHP for a variety of reasons, including: psychiatric and/or
35
36 medical issues (n=39, 55.0%); substance use (n=9, 12.9%); legal issues (including but not limited
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38 to DUI; n=5, 7.1%); behavioral problems (n=4, 5.7%); work and general stress (n=3, 4.3%);
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40 professional boundary referrals (n=1, 1.4%); and family situations (n=1, 1.4%).
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46 **Current Risk Factors**

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48 After adjusting for gender, physicians were more likely to report past month suicidal
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50 ideation (OR = 4.132, $p < .001$ – Table 2). Situational stressors related to past month ideation
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52 included personal, financial, health, and occupational problems but not legal issues (personal
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54 OR = 5.36, $p < .001$; financial OR = 3.66, $p < .001$; health OR = 2.38, $p < .001$; occupational OR =
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3 1.88, $p = .01$). Those with more than one stressor were more likely to report recent ideation
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6 (OR = 1.77, $p < .001$). Lack of personal supports was associated with suicidal ideation (OR =
7
8 2.46, $p < .001$). Several compulsive behaviors (sex, spending, eating) were linked to current
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10 ideation (sex OR = 9.61, $p < .001$; spending OR = 3.60, $p = .01$; eating OR = 2.77, $p < .001$). MOS
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12 composite scores for both physical and mental health status were associated with past month
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14 ideation (PCS OR = .98, $p < .001$; MCS OR = .95, $p < .001$).
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17 18 **Historical Experiences**

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21 After adjusting for gender, several historic factors were associated with past month
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23 suicidal ideation (Table 3). Physicians were more likely to report a prior suicide attempt (OR =
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25 5.20, $p < .001$) and a positive history of physical, verbal, or sexual abuse (physical OR = 5.23, $p <$
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27 $.001$; verbal OR = 2.95, $p < .001$; sexual OR = 2.17, $p = .04$). Family history of several mental
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29 health disorders was significant. Specifically, both fathers and mothers were more likely to
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31 have a mood disorder (father OR = 2.19, $p = .01$; mother OR = 3.41, $p < .001$) and mothers were
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33 more likely to have an anxiety disorder (OR = 2.31, $p = .01$).
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38 **DISCUSSION**

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41 This study documents current stressors associated with doctors' recent suicidal ideation
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43 and supports prior research examining historic suicide risk factors among physicians. The
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45 findings inform best practices for clinical evaluations and treatment recommendations for
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47 those working with physician patients. In adjusted analysis, doctors who recently
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49 contemplated suicide were five times more likely to report personal problems, three times
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51 more likely to report financial problems, and roughly two times more likely to report health or
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53 work problems than those not thinking about suicide. Multiple problem areas were also linked
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3 to suicidal ideation. Physicians who endorsed current ideation were more likely to report
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5 positive histories of sexual, eating, and spending disorders and many lacked personal supports.
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8 We saw elevated rates of prior sexual, physical, and mental abuse. While other work examining
9
10 physician suicide risks have not established this link, studies in the general population
11
12 document similar results(Centers for Disease Control 2016) and suggest a critical need to gather
13
14 this information. For each doctor, the manifestation and impact of these issues will vary
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16 individually, underscoring the need to speak with physicians one-on-one at the point of initial
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18 contact, rather than relying solely on standardized assessment tools that typically only capture
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20 the presence or absence of a problem.
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25 26 **Evaluation Considerations**

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28 Recognizing and responding to physicians in distress requires specialized knowledge and
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30 skills; highly trained professionals are needed and timing is critically important. The
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32 comprehensive evaluation should assess enduring problems, such as the presence of a mood
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34 disorder or compulsive behaviors, as well as current stressors. With any clinical evaluation, it is
35
36 critical to bring in collateral sources of information, such as that obtained from family members
37
38 and colleagues, to understand what obstacles the physician faces, as well to better know the
39
40 physician's strengths and supports. In doing so, the evaluator can gather sufficient information
41
42 to make appropriate referrals to psychiatric care, as well as other resources that will aid in the
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44 physician's recovery (e.g., marital or substance use counseling, help for problematic children,
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46 financial counseling, legal referrals). Suicidal ideation is often associated with feeling powerless
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48 and addressing the areas of stress can help to diminish this feeling.
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3 Suicidal ideation was more likely to occur among physicians who struggled with multiple
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5 concurrent stressors. In such circumstances, evaluators should consider multiple sources of
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7 stress as an independent and serious risk factor requiring careful assessment, even in the
8
9 absence of a diagnosis. Physicians with multiple situational stressors will require more external
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11 support and time devoted to his or her recovery, particularly when the stressor involves
12
13 personal or work problems. Further, evaluators and clinicians must ensure that they do not
14
15 view the impact of situational stressors as transitory or something from which the physician will
16
17 eventually escape. Doctors struggling with multiple situational stressors may not see the
18
19 “bigger picture” and, in the context of hopelessness and helplessness, may believe that suicide
20
21 is their only option. In most circumstances, physicians are motivated by a doctrine of providing
22
23 excellent care and protecting the practice of medicine. In evaluating and supporting PHP
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25 participants, we emphasize to doctors that maintaining their own health can translate into
26
27 better patient care. This simple message can serve as a powerful motivator for ill physicians
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29 to seek the treatment they need for restoration of health.
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38 PHPs may be particularly beneficial when conducting evaluations with doctors. PHPs
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40 are peer run organizations that provide diagnostic evaluation, referral services and, if needed,
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42 long-term health monitoring for doctors recovering from illness. Physicians who present to
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44 PHPs often do so when they are distressed or suffering. The organizations are unique in that
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46 they do not provide direct clinical care but, rather, help to ensure that physician participants
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48 receive appropriate treatment and support services for conditions that could otherwise affect
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50 their ability to practice medicine with skill and safety to patients. In this respect, PHPs are an
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52 important avenue for assisting doctors who are in vulnerable, critical situations. It should be
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3 mentioned that PHPs often see physicians who are not seeking help by their own choice, but
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5 have been ordered for evaluation by their medical board, hospital, or employer. Whether a
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7 participant is mandated for evaluation or not, there are many problems for which they seek
8
9 care. In this sample, physicians with past month suicidal ideation presented for psychiatric
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11 issues, as well as behavioral problems, substance use, and work stress. It is important to be
12
13 alert to the potential for suicidality in any of these situations by using a comprehensive
14
15 assessment, not just evaluating the problem for which the physician was referred.
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21 The SF-36 may be a useful standardized tool for supplementing the evaluation.
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23 Physicians with past month suicidal ideation yielded low mental and physical health composite
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25 scores. It may benefit organizations to implement this instrument during evaluations and use it
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27 on routine basis in order to objectively observe a change in functioning and provide an
28
29 opportunity to re-formulate treatment plans, if needed.
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33 **Limitations**

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35 Several limitations in this examination are noteworthy. First, patients may not be
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37 entirely truthful or fully disclose the extent of their problems during face-to-face intake
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39 interviews. There are several reasons for such behavior, including general privacy concerns and
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41 worries about potential practice limitations or even discipline. To balance this, we also drew
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43 upon information gathered by a computer-based questionnaire, which might permit more
44
45 truthfulness in responding, especially for sensitive questions. Changing the way physicians
46
47 perceive personal care-seeking may further increase one's comfort in disclosing personal
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49 information. Second, this examination was conducted on a single PHP and participant
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51 characteristics may vary from other programs and other physician patient groups, thus limiting
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3 the generalizability of the data. In addition, physicians who are actively seeking care may not
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5 be representative of the larger physician population, who, as a whole, are generally reluctant to
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7 seek care. Third, we drew upon physicians reporting recent suicidal ideation. While we had a
8
9 few completed suicide cases in the program, their numbers were too small from which to draw
10
11 statistically significant conclusions. This makes the results difficult to translate to those with
12
13 completed suicide attempts. Fourth, the data was drawn from an administrative dataset. Like
14
15 most information sources collected for non-research purposes, the records contained some
16
17 errors including incomplete/missing data and inconsistent methods of entry. A further problem
18
19 with this method is that it provides only a glimpse into the risks of a very complicated issue.
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21 Further work should consider doctors' suicide risks in more detail, perhaps from talking with
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23 those who survived a suicide attempt, to better understand risks, warning signs, and areas for
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25 potential intervention.
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33 **Conclusions**

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36 Many important points can be gleaned from this work. Because of physicians'
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38 specialized knowledge about the toxicity of and access to lethal substances, they may be more
39
40 likely to have completed suicide attempts. Suicidal ideation reflects a high level of distress and,
41
42 for this reason, it is critical that any physician expressing such thoughts be carefully and
43
44 comprehensively assessed. A lower threshold for emergency room observation or even
45
46 hospitalization may also be warranted.
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51 This work demonstrates the importance of obtaining detailed information at the point
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53 of initial contact in order to make appropriate diagnoses and treatment recommendations.
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55 Evaluators and clinicians should recognize that both current and historical factors are
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3 associated with suicidal ideation and should be assessed carefully for their presence and
4 severity. Even in the event that a formal diagnosis is not made, a client may be experiencing
5 stressors such as bankruptcy, a lawsuit, or an ill family member that requires referrals for
6 supportive counseling. This may be particularly true in the event of multiple stressors. The SF-
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13 36 may be a valuable standardized assessment tool although more research in this area is
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16 needed. Utilizing this tool should be accompanied by an in-person meeting to obtain more
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19 specific, individualized information.
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REFERENCES

- 1
2
3
4
5
6 Agerbo, E., D. Gunnell, J. P. Bonde, et al. (2007). "Suicide and occupation: the impact of socio-
7
8 economic, demographic and psychiatric differences." *Psychological medicine* 37(8): 1131-1140.
9
10
11 American Foundation for Suicide Prevention. (2016). "*Physician and Medical Student*
12
13 *Depression and Suicide Prevention*." Retrieved 9/27/2016, from [https://afsp.org/our-](https://afsp.org/our-work/education/physician-medical-student-depression-suicide-prevention/)
14
15 [work/education/physician-medical-student-depression-suicide-prevention/](https://afsp.org/our-work/education/physician-medical-student-depression-suicide-prevention/).
16
17
18 American Medical Association (1973). "The sick physician. Impairment by psychiatric disorders,
19
20 including alcoholism and drug dependence." *JAMA* 223(6): 684-687.
21
22
23 American Medical Association (1987). "Results and implications of the AMA-APA Physician
24
25 Mortality Project. Stage II. Council on Scientific Affairs." *JAMA* 257(21): 2949-2953.
26
27
28 Austin, A. E., C. van den Heuvel and R. W. Byard (2013). "Physician suicide." *J Forensic Sci* 58
29
30 *Suppl 1*: S91-93.
31
32
33 Beck, A. T., M. Kovacs and A. Weissman (1979). "Assessment of suicidal intention: the Scale for
34
35 Suicide Ideation." *J Consult Clin Psychol* 47(2): 343-352.
36
37
38 Burnett, C. and N. Swanson (1995). "Suicide and Occupation." *Journal of Occupational Medicine*
39
40 37(4): 11p.
41
42
43 Centers for Disease Control. (2016). "*Suicide: Risk and Protective Factors*." Retrieved
44
45 5/26/2016, 2016, from
46
47 <http://www.cdc.gov/violenceprevention/suicide/riskprotectivefactors.html>.
48
49
50
51 Centers for Disease Control and Prevention (2013). *Web-based Injury Statistics Query and*
52
53 *Reporting System (WISQARS)*, National Center for Injury Prevention and Control.
54
55
56
57
58
59
60

- 1
2
3 Frank, E., H. Biola and C. A. Burnett (2000). "Mortality rates and causes among U.S. physicians."
4
5
6 *American Journal of Preventive Medicine* 19(3): 155-159.
7
8
9 Gabbard, G. O. (1985). "The role of compulsiveness in the normal physician." *JAMA* 254(20):
10
11 2926-2929.
12
13 Gold, K. J., A. Sen and T. L. Schwenk (2013). "Details on suicide among US physicians: data from
14
15 the National Violent Death Reporting System." *General Hospital Psychiatry* 35(1): 45-49.
16
17
18 Hawton, K., A. Clements, C. Sakarovitch, et al. (2001). "Suicide in doctors: a study of risk
19
20 according to gender, seniority and specialty in medical practitioners in England and Wales,
21
22 1979-1995." *J Epidemiol Community Health* 55(5): 296-300.
23
24
25
26 Hawton, K., A. Malmberg and S. Simkin (2004). "Suicide in doctors. A psychological autopsy
27
28 study." *J Psychosom Res* 57(1): 1-4.
29
30
31 Hem, E., T. Haldorsen, O. G. Aasland, et al. (2005). "Suicide rates according to education with a
32
33 particular focus on physicians in Norway 1960-2000." *Psychological medicine* 35(6): 873-880.
34
35
36 Iannelli, R. J., A. J. Finlayson, K. P. Brown, et al. (2014). "Suicidal behavior among physicians
37
38 referred for fitness-for-duty evaluation." *General Hospital Psychiatry* 36(6): 732-736.
39
40
41 Lindeman, S., E. Laara, H. Hakko, et al. (1996). "A systematic review on gender-specific suicide
42
43 mortality in medical doctors." *British Journal of Psychiatry* 168(3): 274-279.
44
45
46 Myers, M. F. and G. O. Gabbard (2008). *The physician as patient: A clinical handbook for mental*
47
48 *health professionals*. Arlington, VA, American Psychiatric Publishing.
49
50
51 Nock, M. K., G. Borges, E. J. Bromet, et al. (2008). "Suicide and suicidal behavior." *Epidemiol Rev*
52
53 30: 133-154.
54
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1
2
3 Petersen, M. R. and C. A. Burnett (2008). "The suicide mortality of working physicians and
4 dentists." *Occupational medicine* 58(1): 25-29.
5
6

7
8 Pitts, F. N., Jr., A. B. Schuller, C. L. Rich, et al. (1979). "Suicide among U.S. women physicians,
9 1967-1972." *Am J Psychiatry* 136(5): 694-696.
10
11

12
13 Pompili, M., M. Vichi, P. Qin, et al. (2013). "Does the level of education influence completed
14 suicide? A nationwide register study." *Journal of Affective Disorders* 147(1-3): 437-440.
15
16

17
18 Ross, C. E. and J. Lauritsen (1985). "Public opinion about doctors' pay." *American Journal of*
19
20
21
22 *Public Health* 75(6): 668-670.

23
24 Schernhammer, E. S. and G. A. Colditz (2004). "Suicide rates among physicians: a quantitative
25 and gender assessment." *American Journal of Psychiatry* 161(12): 2295-2302.
26
27

28
29 Shanafelt, T., C. Balch, L. Dyrbye, et al. (2011). "Suicidal ideation among american surgeons."
30
31
32 *Arch Surg* 46(1): 54-62.

33
34 Silverman, M. (2000). The Handbook of Physician Health: An Essential Guide to Understanding
35
36 the Healthcare Needs of Physicians. *Physicians and suicide.* Goldman LS, Myers M and D. LJ.
37
38 Chicago, American Medical Association.
39

40
41 Stack, S. (2004). "Suicide Risk Among Physicians: A Multivariate Analysis." *Archives of Suicide*
42
43
44 *Research* 8(3): 6p.

45
46 Torre, D., N. Wang, L. A. Meoni, et al. (2005). "Suicide Compared to Other Causes of Mortality in
47
48
49 Physicians." *Suicide & Life-Threatening Behavior* 35(2): 146-153.
50

51
52 Ware, J. E., K. K. Snow, M. Kosinski, et al. (1993). *SF-36 Health Survey Manual and Interpretation*
53
54
55 *Guide.* Boston, Health Institute New England Medical Center.
56
57
58
59
60

Table 1. Demographic Differences Between Physicians with Recent (Past Month) Suicidal Ideation

	Recent Thoughts n=70		No Recent Thoughts n=1,572		p-value
	n	%	n	%	
Gender					
Male	38	3.2%	1150	96.8%	<.001
Female	32	7.0%	422	26.8%	
Age Category					
20s	2	7.1%	26	92.9%	
30s	15	4.5%	315	95.5%	
40s	23	4.3%	512	95.7%	
50s	21	4.0%	508	96.0%	
60s and up	9	4.1%	208	95.9%	
Race/Ethnicity					
Not Caucasian	14	6.9%	189	93.1%	
Caucasian	56	3.9%	1371	96.1%	
Specialty					
Family Practice	12	3.8%	301	96.2%	
Anesthesiology	7	4.4%	151	95.6%	
Internal Medicine	18	5.6%	305	94.4%	
Psychiatry	8	8.0%	92	92.0%	
Other	25	3.4%	718	96.6%	

Table 2. Adjusted Odds of Current Risks Between Physicians With and Without Recent Suicidal Ideation

	Adjusted OR ¹	95% CI		p- value
Reason for Presenting to PHP				
Depression	4.13	2.33	7.34	<.001
Substance Use	0.97	0.47	2.00	--
Situational Stressors				
Personal Problem	5.36	3.18	9.04	<.001
Financial Problem	3.66	1.88	7.12	<.001
Health Problem	2.38	1.41	4.02	<.001
Occupational Problem	1.88	1.16	3.06	0.01
Legal Issue	1.51	0.76	3.02	--
# of Problems ²	1.77	1.48	2.11	<.001
Lack of Personal Support				
	2.46	1.39	4.35	<.001
Compulsive Behaviors				
Sex	9.61	3.65	25.33	<.001
Spending	3.60	1.35	9.61	0.01
Gambling	3.44	0.76	15.48	--
Eating	2.77	1.47	5.23	<.001
MOS Short Form-36 Scores				
PCS	0.98	0.97	0.99	<.001
MCS	0.95	0.94	0.96	<.001

¹controlled by gender²Includes financial, health, legal, personal, occupational

Table 3. Adjusted Odds of Historical Experiences Between Physicians With and Without Recent Suicidal Ideation

	Adjusted OR ¹	95% CI		p-value
Prior suicide attempt	5.20	2.34	11.60	<.001
Abuse History				
Physical Abuse History	5.23	2.97	9.21	<.001
Verbal Abuse History	2.95	1.78	4.88	<.001
Sexual Abuse History	2.17	1.05	4.47	0.04
Family History				
Father Hx of Mood Disorder	2.19	1.27	3.79	0.01
Mother Hx of Mood Disorder	3.41	2.08	5.60	<.001
Father Hx of Anxiety Disorder	2.20	0.91	5.31	--
Mother Hx of Anxiety Disorder	2.31	1.24	4.30	0.01
Father Hx of Substance Use	1.66	0.94	2.93	--
Mother Hx of Substance Use	0.75	0.27	2.10	--

¹controlled by gender