

REPORT 2 OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH (A-10)  
Suicide in Physicians and Physicians-in-Training  
(Resolutions 322 and 422, A-09)  
(Reference Committee D)

EXECUTIVE SUMMARY

Objective. This report focuses on the issue of suicide by physicians and physicians-in training. The epidemiology of suicide and factors contributing to a decline in the mental health of medical students and resident and practicing physicians are examined. Additionally, barriers to receipt of appropriate care and solutions that have been proposed to address the occurrence of suicide in these populations are examined.

Methods. English-language reports on studies using human subjects were selected from a PubMed search of the literature from 1970 to March 2010 using the MeSH terms “student/medical,” “internship and residency,” and “physicians,” in combination with “mortality,” “suicide/epidemiology,” “burnout/professional,” and “stress/psychological.” Additional articles were identified by manual review of the references cited in these publications. Web sites of the Substance Abuse and Mental Health Services Administration, Centers for Disease Control and Prevention, and the American Foundation for Suicide Prevention also were consulted.

Results. Medical school and residency are stressful periods of physician training, each with their own dynamic. Many medical students experience substantial distress, which contributes to a decline in mental health and well being. Depression and burnout are risk factors for suicidal ideation. Resident and practicing physicians also experience depression and burnout, and because they often lack a regular source of care, face barriers to the prompt diagnosis and treatment of mental disorders. Many studies on resident and physician distress were completed during a time when the demographics of the physician population were substantially different. In addition, the work environment for resident physicians changed after restrictions on duty hours were implemented in 2003.

Research on medical student and physician suicide has been conducted on a global basis; however, the findings in European counterparts may not be directly applicable to U.S. based physicians because of substantial cross cultural differences in training and work conditions. The current incidence of medical student and physician suicide in the U.S. is not well established, especially as it relates to students in other graduate programs or other professions also characterized by a high degree of burnout.

Conclusion. The routine occurrence of burnout and mental disorders in physicians and physicians-in-training warrants continued examination and development of more transparent and efficient solutions. Several recommendations and action steps to address the occurrence of mental distress and suicide have been offered. However, the Council is not in a position to offer further concrete recommendations for preventing suicide in medical students, residents, and physicians without a more formal collaborative effort involving representatives from the medical education community, mental health professionals, and individuals with expertise in suicide prevention. Creation of an expert panel to address these various issues is advised.

REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

CSAPH Report 2-A-10

Subject: Suicide in Physicians and Physicians-in-Training  
(Resolutions 322 and 422, A-09)

Presented by: C. Alvin Head, MD, Chair

Referred to: Reference Committee D  
(Diana E. Ramos, MD, Chair)

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1 Resolution 322, introduced by the Mississippi Delegation at the 2009 American Medical  
2 Association (AMA) Annual Meeting and referred to the Board of Trustees, asks:

3  
4 That our AMA study the issue of debilitating accidents, accidental deaths, and suicides of  
5 medical students, residents, and young physicians in the United States and explore ways to  
6 address this critical problem.

7  
8 Resolution 422, introduced by the American Psychiatric Association, American Academy of Child  
9 and Adolescent Psychiatry, and the American Academy of Psychiatry and the Law at the 2009  
10 AMA Annual Meeting and referred to the Board of Trustees, asks:

11  
12 That our American Medical Association collaborate with appropriate state and specialty  
13 societies to prepare an updated review of the literature on the incidence and risk factors of  
14 suicide by physicians and medical students; and

15  
16 That such a study of physicians and medical trainees include specific recommendations  
17 designed to reduce the incidence of suicide by physicians at all stages of training and practice.

18  
19 **BACKGROUND**

20  
21 Each year, more than 33,000 people die by suicide in the U.S., and some 650,000 receive  
22 emergency treatment after a suicide attempt. Suicidal behavior generally develops across a  
23 continuum of increasingly serious stages from feelings that life is not worth living, through suicidal  
24 ideation and serious contemplation, to planning and actual execution of a suicide attempt.  
25 Although suicide results from a complex interplay of risk and protective factors that are biological,  
26 psychological, and social in nature, the major risk factor is mental illness, especially major  
27 depressive or bipolar disorder, and substance use disorders; 90% of suicides are associated with  
28 these factors.<sup>1,2</sup>

29  
30 This report focuses on the issue of suicide by physicians and physicians-in training. It does not  
31 address the topic of serious accidents or accidental deaths experienced by medical students,  
32 resident physicians, and young physicians. No information currently exists to formally capture  
33 these events, and to establish a baseline for medical students would require a modification in the  
34 annual survey distributed to medical schools.

1 METHODS

2  
3 English-language reports on studies using human subjects were selected from a PubMed search of  
4 the literature from 1970 to March 2010 using the MeSH terms “student/medical,” “internship and  
5 residency,” and “physicians,” in combination with “mortality,” “suicide/epidemiology,”  
6 “burnout/professional,” and “stress/psychological.” Additional articles were identified by manual  
7 review of the references cited in these publications. Web sites of the Substance Abuse and Mental  
8 Health Services Administration, Centers for Disease Control and Prevention, and the American  
9 Foundation for Suicide Prevention also were consulted.

10  
11 RELEVANT AMA ACTIVITIES AND POLICY

12  
13 Several issues are discussed in this report that are relevant to: (1) understanding the stresses to  
14 which physicians and physicians-in-training are subjected; (2) interventions that have been  
15 identified as potential approaches to mitigate the decline in mental health that often accompanies  
16 the training process; and (3) efforts to achieve better “life-balance” for physicians. The issues  
17 raised by Resolutions 322 (A-09) and 422 (A-09) are not new, and the AMA has previously  
18 addressed them in one form or another over the last 30 years.

19  
20 The AMA first called for the creation of medical student support groups in 1979 and the HOD  
21 called for the development of a suicide prevention program for medical students and physicians in  
22 1986, an approach that was endorsed by the Board of Trustees. In 1989 the AMA was urged to  
23 develop a resident physician wellness guide to address the factors involved in managing and  
24 reducing resident stress (Resolution 4, A-89). Resolution 315 (A-95) asked that the AMA review  
25 existing suicide awareness and prevention programs for medical student and resident physicians,  
26 and encourage medical schools and residency programs to adopt those programs demonstrated to  
27 be most effective.

28  
29 In a series of reports beginning in the 1980s, the AMA turned its attention to resident physician  
30 working hours and the educational environment for residents, ultimately establishing the Principles  
31 for Graduate Medical Education (Policy H-310.929 AMA Policy Database). Several Council on  
32 Medical Education and Board of Trustees reports analyzed and provided advice on the evolving  
33 topic of resident working hours prior to the advent of the new Accreditation Council for Graduate  
34 Medical Education (ACGME) Guidelines on resident work hours in 2003.<sup>3-11</sup>

35  
36 These reports addressed not only enforcement of the new standards, but also assessed how the new  
37 ACGME guidelines actually affected working conditions for resident physicians and fellows.<sup>12</sup>  
38 Other reports from the Council on Medical Education (that are tangentially related to the issue of  
39 distress and suicidal ideation across medical training) addressed the harassment of women in  
40 medicine, medical student education and working conditions, and resident and intern burnout.<sup>13,14</sup>  
41 Most recently the Council on Medical Education has been engaged in the Initiative to Transform  
42 Medical Education (ITME). One of the core themes of ITME is to promote physician professional  
43 development. Included under this rubric is the need to adapt the medical education learning  
44 environment to mitigate negative, and to enhance positive, factors.<sup>15</sup> The Council also has  
45 identified a set of recommendations to accomplish this goal.<sup>16</sup> Several current AMA policies  
46 address the medical student learning environment and well-being (H-295.900; H-295.965; H-  
47 295.992; H-295.927; H-295.999); resident working conditions and well-being (H-310.979; H-  
48 310.926; H-310.927; H-310.961; D-310.955); and physician health and wellness (H-95.955; D-  
49 405.992; D-405.996; E-9.0305) or physician suicide (D-345.993).

1 Portions of this report are divided into separate discussions for medical students, resident  
2 physicians, and physicians because of the different dynamics affecting mental health and suicide  
3 risk in these populations.

#### 5 SUICIDE IN MEDICAL STUDENTS

7 Suicide is the seventh leading cause of death for males and the sixteenth leading cause of death for  
8 females, with four times as many men than women dying by suicide.<sup>17</sup> However, suicide is the  
9 third-leading cause of death in young adults aged 20 to 24 years (incidence 12.5/100,000), and the  
10 second leading cause of death in individuals aged 25 to 34 years (incidence 12.3/100,000). More  
11 than six times as many males as females ages 20 to 24 died by suicide in 2006, and more than five  
12 times as many males as females ages 25 to 34 died by suicide in 2006.<sup>17,18</sup> An estimated 12 to 25  
13 attempted suicides occur per every completed suicide; females are more likely to experience failed  
14 attempts.<sup>18</sup> The major risk factors for suicide in these age groups include depression and other  
15 mental disorders, substance-use disorders, prior suicide attempts, and family histories of these risk  
16 factors.<sup>19</sup> Some mental health disorders (e.g., bipolar disorder, schizophrenia) that are related to  
17 suicide have a genetic predisposition. Knowledge of family history may therefore be very valuable  
18 in identifying some individuals at risk.

#### 20 *Medical Student Suicides*

22 Information on U.S. medical student suicides is based on medical school surveys and therefore is  
23 limited and somewhat conflicting. A study of mortality among medical students from 1947 to  
24 1967 found that the suicide rate in medical students was 3- to 5-fold higher than the rate in  
25 Caucasians 20 to 24 years of age (during this time period, 90% of medical students were male  
26 Caucasians).<sup>20</sup> A similar, but shorter term study of students matriculating between 1967 and 1971  
27 found substantially lower mortality in medical students compared with age-matched controls in the  
28 general population, and failed to confirm an increase in suicide risk.<sup>21</sup>

30 Information gleaned from surveys from 1974 to 1981 identified 52 medical student suicides; the  
31 calculated suicide rates for male (15.6/100,000) and female (18.9/100,000) students were  
32 comparable. The rate for male medical students was similar to the general age-matched  
33 population, but the suicide rate for female medical students was more than 3-fold higher than age  
34 matched peers.<sup>22</sup> An analysis of medical student suicides from 1989 to 1994 identified  
35 substantially fewer suicides than anticipated (15), 14 of which were committed by male students.  
36 This study concluded that medical student suicides occur at a lower rate than in the age-matched  
37 general population and a female preponderance was absent.<sup>23</sup> Another study also based on  
38 information gleaned from a Liaison Committee on Medical Education (LCME) survey in 1991-  
39 1992 reported a suicide rate of 5.1/100,000 in U.S. medical students.<sup>24</sup> No systematic studies of  
40 U.S. medical student suicides have been subsequently reported. However, medical student suicides  
41 continue to occur, and these events coupled with previous assertions that the suicide rate is elevated  
42 in medical students have fostered considerable analysis and discussion of medical student distress  
43 and suicidal ideation.

#### 45 *Manifestations of Student Distress*

47 Medical students experience a high degree of personal distress affecting their mental health,  
48 patterns of alcohol and drug use, academic performance, professionalism, and competency.<sup>25</sup>  
49 Adjustment to the medical school environment, a demanding curriculum (scholastic workload and  
50 learning environment), lack of time for recreation, an elite level of competition, exposure to human

1 suffering and death, enduring episodes of harassment and abuse, and witnessing cynicism and a  
 2 lack of empathy on the part of resident physicians and clerkship directors may contribute to a  
 3 decline in personal and mental health and a deterioration of coping strategies.<sup>26-29</sup>  
 4

5 The clinical years of training present a new set of challenges as students are separated from their  
 6 peer-support group and rotate through new work environments at different hospitals, each of which  
 7 requires application of a unique knowledge base and skill set in order to succeed. This so-called  
 8 “informal curriculum” conveys powerful messages about professional values, character, and norms.  
 9 A high percentage of third- and fourth- year students report observing physicians referring to  
 10 patients in a derogatory fashion and/or witnessing what they perceive as unethical behavior toward  
 11 a patient.<sup>30</sup> More than two-thirds of students experience guilt about their personal role in these  
 12 episodes. The fact that most medical students are inadequately prepared to communicate with  
 13 dying patients and their families also creates distress. Furthermore, these initial encounters with  
 14 serious illness, suffering, and death may unmask existing psychological vulnerabilities.  
 15

16 Mistreatment of students also occurs most often during clinical rotations, and the perception of  
 17 being taken advantage of, or abused, is common among medical students (50-85%).<sup>31-34</sup> Verbal  
 18 abuse, perception of receiving unfair grades, unnecessary or degrading task assignments, physical  
 19 or sexual abuse, and racial discrimination can be problematic.<sup>31-40</sup>  
 20

21 Mood and Anxiety Disorders. Upon matriculation, the mental health of medical students is  
 22 comparable to their age matched (nonmedical) peers but worsens substantially during medical  
 23 school training, with approximately 50% of U.S. medical students suffering poor mental health.<sup>41-50</sup>  
 24 Based on self assessment, 14% to 25% of medical students suffer from dysphoria and depressive  
 25 disorders, typically peaking during the second year, with gradual improvement thereafter.<sup>25,43,47,51-53</sup>  
 26

27 The levels of overall psychological distress among medical students remains consistently higher  
 28 than in the general population and age-matched peers even through the later years of training.<sup>26</sup>  
 29 When diagnostic interviews are used to more accurately gauge the prevalence of a psychiatric  
 30 diagnosis, 27% of third-year medical students fulfill the criteria for a psychiatric diagnosis.<sup>54</sup>  
 31 Females may experience higher levels of distress, and minority students report lower quality of life,  
 32 although most studies have not found significant differences in students’ mental health based on  
 33 race or ethnicity.<sup>26,41,55-60</sup>  
 34

35 Suicidal Ideation. Suicidal ideation is a predictor of suicidal planning and attempts; 34% of  
 36 individuals in the general population with suicidal ideation develop a suicide plan and, of those  
 37 who plan, more than 70% will attempt suicide.<sup>61</sup> Approximately 1 in 4 individuals with suicidal  
 38 ideation progress directly to an unplanned suicide attempt. In one recent cross-sectional study of  
 39 suicidal ideation, more than 11% of medical students reported experiencing suicidal ideation;  
 40 depressive symptoms, burnout (see below), and low quality of life (QOL) predicted suicidal  
 41 ideation.<sup>50</sup> A multisite, anonymous study of suicidal ideation found that 6.6% of medical students  
 42 admitted to suicidal ideation, which was related to the history and severity of depressive  
 43 symptoms.<sup>52</sup> These estimates of the incidence of suicidal ideation are within the range previously  
 44 established (3-15%) based on single institution studies.<sup>44,45,53,54</sup>  
 45

46 Burnout. Burnout is not a psychiatric disorder *per se* but rather a measure of professional distress  
 47 with three domains: emotional exhaustion, depersonalization and cynicism, and low sense of  
 48 personal achievement leading to decreased effectiveness in the working environment; these  
 49 dimensions can coexist to varying degrees.<sup>62,63</sup> The confluence of high job demand, lack of  
 50 autonomy, interference with the work-home interface, and certain individual characteristics causes  
 51 burnout.<sup>63</sup> Therefore, both organizational and individual interventions may be required to address

1 this phenomenon. Burnout differs from impairments related to depression in that it primarily  
2 affects an individual's relationship to his or her work.

3  
4 Cross sectional and longitudinal studies reveal that 45% to 50% of medical students suffer from  
5 burnout.<sup>26,50,54</sup> In addition to the learning environment, other factors contributing to burnout in  
6 medical students include certain personality factors (impulsivity, conscientiousness), depressive  
7 symptoms, occurrence of negative personal events, and financial concerns. Minority students who  
8 report that their race/ethnicity adversely affects their medical school experience are more likely to  
9 experience burnout.<sup>57</sup> In one study, more than 60% of clerkship directors met the criteria for  
10 burnout; such individuals were more likely to report a lack of empathy towards students raising the  
11 possibility that they model and/or contribute to burnout among students.<sup>64</sup> Other studies have  
12 revealed that burnout and cynicism are common among resident and practicing physicians raising  
13 additional concerns about how interactions of such individuals with medical students during  
14 training could adversely affect the development of professionalism in students.<sup>63-67</sup>

15  
16 Student Abuse. The perception of being taken advantage of, or abused, is common (50-85%)  
17 among medical students.<sup>31-34</sup> More female than male medical students report having been victims of  
18 abuse, but no variation by race has been reported in the few studies published.<sup>35,36</sup> Student abuse  
19 occurs most often during the clinical years, with faculty, house staff, and nurses being identified as  
20 the most common abusers.<sup>31-33,35-38</sup> Although verbal abuse is the most common problem in this  
21 category, institutional abuse (e.g., unfair grades, excessive workload, unnecessary scut work),  
22 assignment of inappropriate tasks (e.g., getting food for the team), physical abuse, sexual  
23 harassment, and racial discrimination also are serious problems. The effect of abuse on students  
24 can linger. In one study of 500 medical students, more than 40% reported that they had personally  
25 experienced abuse and that the experience was a major source of stress that affected them for a  
26 month or longer.<sup>33</sup> Regardless of year in training, verbal abuse seriously affects students'  
27 confidence and negatively affects the learning environment.

## 28 29 RESIDENT PHYSICIANS

30  
31 The stress of residency has been extensively discussed in the literature. High patient loads; sleep  
32 deprivation; the need to translate a substantial knowledge base to patient care; financial concerns;  
33 and personal issues related to isolation, lack of a support system, cultural issues, and the specter of  
34 future planning needs contribute.<sup>68</sup> In addition to shouldering extensive responsibilities for patient  
35 care, resident physicians are the primary clinical instructors for rotating medical students.

### 36 37 *Suicide in Residents*

38  
39 No study has systematically evaluated suicide rates in resident physicians, rather resident suicides  
40 have been subsumed under the mantle of some studies on physician suicides (see below).

### 41 42 *Depression and Burnout*

43  
44 A substantial number of studies on resident physician health were conducted 15 to 30 years ago,  
45 prior to the implementation of work hour restrictions in 2003. Cross sectional rates of depression  
46 discovered in these studies for resident physicians (15% to 30%) are higher than in the general  
47 population.<sup>69-71</sup> Depression rates of approximately 30% in the first postgraduate year are typical,  
48 falling gradually to under 20%, but still remaining higher than the general population.<sup>72</sup> In a recent  
49 study based on self assessment, 7.2-11.3% of resident physicians had probable major depression  
50 and 1.6-5.6% admitted to suicidal ideation; a somewhat lower percentage of resident physicians  
51 were classified as having probable minor/moderate depression. All told, 11-21% of resident

1 physicians in years 1 to 5 had significant depressive symptoms, and 1 in 5 residents rated their  
2 mental health as poor.<sup>52,74</sup>

3  
4 Resident physicians suffer high rates of burnout (up to 75%). However, most studies of burnout in  
5 residency have been small, cross sectional surveys designed to evaluate potential associations  
6 between burnout dimensions and personal factors, work characteristics, mental health disorders,  
7 and measures of job performance. A systematic review conducted in 2004 confirmed that the  
8 incidence of burnout is very high among resident physicians and is associated with depression and  
9 medical errors. However, precise causal relationships remain elusive and demographic and/or  
10 personality characteristics are insufficient to identify at-risk residents.<sup>63</sup>

11  
12 A loss of empathy (~25%) and development of cynicism (~60%) also occurs in a significant  
13 fraction of resident physicians over the course of their training.<sup>74</sup> Because work hours are now  
14 limited and programs are required to monitor resident stress, some evidence exists that resident  
15 physician stress levels are declining, although some concerns have been raised about impacts on  
16 the educational process and patient care.<sup>75-77</sup>

## 17 18 PRACTICING PHYSICIANS

### 19 20 *Suicide in Physicians*

21  
22 Suicide in U.S. physicians has been a topic of interest for nearly a century; several studies were  
23 carried out with the assistance of records on physician deaths maintained by the AMA.<sup>78-89</sup>

24  
25 In 1982, the Council on Scientific Affairs undertook a joint collaborative project with the American  
26 Psychiatric Association (APA) to address the topic of physician suicide.<sup>90,91</sup> The Council's review  
27 of studies conducted from the 1940s to 1970s concluded that annual suicide rates in physicians  
28 ranged from 30 to 40/100,000, although one study of California physicians yielded an annual rate  
29 of 69/100,000.<sup>87,88,92</sup> These figures are substantially higher than the current general population rate  
30 of ~13/100,000; however, the estimated general population suicide rates were higher during the  
31 first half of the 20th century and beyond, and also vary with age. In addition, the physician  
32 population during this time period comprised mostly white males. Accordingly, when the  
33 calculated physician suicide rates in these studies are compared with estimated rates in white males  
34 older than 20 to 25 years of age, or are age-adjusted to the U.S. physician population at the time,  
35 much of the apparent increases in suicide rates are erased. Between 1940 and the late 1970s, the  
36 estimated general population suicide rates in such individuals ranged from 24 to 38/100,000.  
37 According to one viewpoint, the research conducted during this time period was not firmly  
38 supportive of the view that U.S. male physicians committed suicide more frequently than  
39 appropriately age-matched populations.<sup>92</sup> In three studies during this time frame that compared  
40 suicides in male and female physicians, rates were similar between men and women, but because  
41 women are much less likely to commit suicide in the general population, suicide rates in female  
42 physicians were ~4 times higher than comparable rates in white women older than 25.<sup>81,93,94</sup> The  
43 finding that female physicians are more likely than other women to commit suicide has remained  
44 consistent across other studies.

45  
46 Subsequently, more comprehensive national studies and systematic reviews point to a moderately  
47 elevated suicide rate in male physicians and a substantially higher relative rate in female physicians  
48 compared with their counterparts in the general population. These findings emerge against a  
49 backdrop of an overall trend indicating physicians live longer, and that many physicians appear to  
50 make healthy personal choices and are earlier adopters of healthy behaviors based on their  
51 knowledge and educational resources. A proportionate mortality analysis using data from the

1 National Occupational Mortality Surveillance database concluded that among both U.S. white and  
2 black men, physicians were on average older when they died. However, the top ten causes of death  
3 were similar to the general population, except that physicians were more likely to die from suicide,  
4 cerebrovascular disease, and accidents.<sup>95</sup> The most recent study comparing all-cause and cause-  
5 specific mortality in physicians confirmed that the risk of all-cause mortality was 56% lower than  
6 expected in male physicians and 26% lower in female physicians compared with an age/gender  
7 matched segment of the U.S. population during the last half of the 20<sup>th</sup> century.<sup>96</sup> Suicide was the  
8 only cause of death where risk was greater than the general population (1.8 for males; 4.95 for  
9 females).

10  
11 Two systematic reviews have been conducted on suicide mortality in physicians from European  
12 countries and North America.<sup>97,98</sup> The most widely quoted study was based on a meta analysis and  
13 systematic quality assessment of 22 studies on physician suicide; part of the quality assessment  
14 involved a determination of whether age standardization was applied in the analysis of results.  
15 This study, published in 2004, concluded that the aggregate suicide rate ratio for male physicians  
16 was 1.41 (40% increase) and for female physicians was 2.27 (~130% increase) compared with the  
17 general population.<sup>98</sup> Of the 22 studies included in the meta analysis, only three involved U.S.  
18 physicians, including two from the 1970s that relied on the *JAMA* obituary section.

19  
20 The AMA-APA Physician Mortality Project included comprehensive interviews with surviving  
21 relatives and friends of 142 physicians who had died by suicide in an attempt to construct a  
22 psychological autopsy of such physicians.<sup>91</sup> More than 75% of the physicians who committed  
23 suicide had a chronic physical or mental disorder. Approximately one-third of such physicians  
24 misused drugs and alcohol and had mentioned the possibility of suicide, and more than one-half  
25 had prescribed a psychoactive drug for their own use. Approximately two-thirds resulted in suicide  
26 on their first attempt. With regard to personality traits, physicians who died by suicide were more  
27 critical of others and themselves and had lower personal esteem. They appeared to have a less  
28 robust emotional support network, and also were perceived as offering less support to family and  
29 friends. Less than half were consulting with a mental health professional at the time of death.  
30 Upon multivariate analysis, the four variables that met statistical significance for physician suicide  
31 were prior suicide attempt, suicidal verbalizations, self-prescribed psychoactive drugs, and  
32 financial losses.

33  
34 A profile of the physician at high risk for suicide emerged from this study: (1) 45 to 50 years of age  
35 or older; (2) divorced, separated, single, or currently experiencing marital disruption; (3) white  
36 race; (4) presence of depression, alcohol or other drug abuse; (5) high work ethic combined with  
37 risk-taking behavior; (6) presence of psychiatric symptoms or a history of chronic pain or other  
38 debilitating illness; (7) change in professional work environment perceived as a threat to status,  
39 autonomy, security, or financial stability; (8) recent financial losses or increased work demands;  
40 and, (9) access to means to commit suicide, primarily prescription medications or firearms.

#### 41 42 *Physician Mental Health*

43  
44 At the heart of physician distress are mental disorders including depression, anxiety, and substance  
45 abuse; interference with the work-home interface resulting in divorce and discord in  
46 personal/family relationships; and, disillusionment with the profession.<sup>99</sup> Except for schizophrenia,  
47 most mental illnesses including depression, bipolar disorder, and obsessive-compulsive disorder  
48 are as common among physicians as among the general public.

49  
50 Studies 25 to 30 years ago reported burnout in a wide range of practicing physicians with 30% to  
51 60% suffering from this condition. Although burnout is common among academic faculty (37-

1 47%), it is more prevalent in private practice (55-67%), and is somewhat higher in younger  
2 physicians even though it is widely perceived to be a late-career phenomenon.<sup>99,100</sup> Working long  
3 hours *per se* does not cause problems as long as physicians feel well-supported.

## 4 5 SOLUTIONS

6  
7 Creating solutions to reduce suicide in physicians and physicians-in training must address the risk  
8 factors that contribute to mental distress and burnout as well as the barriers to seeking appropriate  
9 care so that interventions designed to prevent suicide can be employed.

### 10 11 *Medical Students*

12  
13 Standards. LCME accreditation standards specify that medical students must have access to  
14 preventive, diagnostic, and therapeutic health services (Standard MS-27), as well as access to  
15 psychiatric/psychological counseling and other sensitive health services from individuals who have  
16 no role in the academic evaluation or promotion (Standard MS-27A). The Council on Medical  
17 Education addressed the issue of student health services in 2007, recommending that medical  
18 students should have timely access to needed services at sites in reasonable proximity to where  
19 their education is occurring, be provided with instruction on how to access such services, and be  
20 given time off to seek needed care.<sup>101</sup>

21  
22 In 2008, the following LCME standard became effective:

23  
24 Standard MS-31A. Medical schools must ensure that the learning environment for medical  
25 students promotes the development of explicit and appropriate professional attributes (attitude,  
26 behaviors and identity) in their medical students.

27  
28 The explanatory notation to this standard notes that the school and its faculty, staff, students, and  
29 residents should regularly assess the learning environment to identify positive and negative  
30 influences on the maintenance of professional standards and conduct, and develop appropriate  
31 strategies to enhance the positive, and mitigate the negative, influences. Thus, aligning the “hidden  
32 curriculum” with the ideals of compassion and professionalism also is essential to creating a  
33 positive learning environment.

34  
35 Barriers. Depressed medical students are no more likely than the general population to seek  
36 treatment for depression.<sup>44,51,102</sup> Barriers to the use of mental health services include lack of time,  
37 fear of academic jeopardy, confidentiality concerns, the stigma of mental illness, and cost. In one  
38 study, 55% of medical students revealed they had not sought treatment even when they recognized  
39 it was needed, particularly for mental illness, drug and alcohol abuse, and stress-related  
40 dysfunction.<sup>51</sup>

41  
42 Interventions. The following approaches or interventions for reducing medical student distress  
43 have been noted; none are specifically designed to prevent suicide.

- 44 • Identify and assist struggling students. Policies should be written so that students who seek  
45 care for stigmatizing illnesses receive protection from negative assessments based on these  
46 problems. Establish a platform for sharing of information among students regarding their  
47 health problems. For example, a program at Duke University allows for anonymous online  
48 postings and dialogue among students with review by psychiatrists to identify students in  
49 need of immediate intervention.<sup>103</sup>

- 1 • Create an ombudsman program, offer career counseling, and provide students off-campus  
2 confidential resources covered by the student health insurance as well as guidance on ways  
3 to cope with the unique challenges of medical school.<sup>104</sup>
- 4 • Provide a support service offering off-site, independent care, similar to an employee  
5 assistance program. Successful mental health programs that have been developed for  
6 medical students can serve as models.<sup>25</sup>
- 7 • Teach skills for stress management and promote self-awareness. One systematic review of  
8 stress management programs in medical schools described the use of coping techniques;  
9 awareness building of psychological and physiological effects of stress; use of support  
10 groups; and establishing formal mentoring relationships with faculty.<sup>105</sup> Most of these  
11 programs rely on support groups and/or didactic training and use self assessment  
12 instruments to assess their effectiveness; no gold standard exists. Student-led support  
13 programs may offer some advantages.<sup>25</sup>
- 14 • Help students promote personal health by requiring students to establish a primary care  
15 physician at matriculation and promote the concept of work-life balance. Introducing a  
16 wellness promotion program into the curriculum is one approach to fostering a view that  
17 students must also take care of themselves. Additionally, mindfulness-based stress  
18 reduction courses can be offered as an elective.

19  
20 *Resident Physicians*

21  
22 Standards. Currently the ACGME requires that programs “facilitate residents’ access to  
23 appropriate and confidential counseling, as well as medical and psychological support services.  
24 Furthermore, the ACGME Institutional Requirements note that:

25  
26 The Sponsoring Institution and its programs must provide an education and work environment  
27 in which residents may raise and resolve issues without fear of intimidation or retaliation.  
28 Mechanisms to ensure this environment must include: (a) an organization or other forum for  
29 residents to communicate and exchange information on their educational and work  
30 environment, their program, and other resident issues; and, (b) a process by which individual  
31 residents can address concerns in a confidential and protected manner (Section IIF1).

32  
33 The ACGME also requires that programs monitor resident stress and that:

34  
35 “Institutions should provide an educational program for residents regarding physician  
36 impairment, including substance abuse.” Model curricula for such courses have been  
37 described.<sup>68,106</sup>

38  
39 In addition, the ACGME Common Program Requirement in the section on “Resident Duty Hours  
40 in the Working and Learning Environment” (Section VIA1) states that:

41  
42 The program must be committed to and be responsible for promoting patient safety and  
43 resident well-being and to providing a supportive educational environment.

44  
45 Barriers. Approximately 50% of residents do not have a primary care physician and/or have not  
46 visited a physician in the prior year; at least 1 in 8 residents serve as their own physician.<sup>107</sup> Nearly  
47 1 in 5 residents admit to avoiding care even when they have significant physical or mental health  
48 concerns.<sup>108</sup>

1 In general, resident physicians may be unsupportive of others who complain about illness; on the  
 2 other hand, individuals express a high level of concern about revealing certain health issues  
 3 because of beliefs that their training status may be jeopardized. Foremost among these concerns  
 4 are problems with alcohol, prescription, or other drugs; mental health problems (depression,  
 5 anxiety, eating disorders); cancer; and, the presence of sexually transmitted diseases, including  
 6 HIV.<sup>108</sup>

7  
 8 Interventions.

- 9 • Establish work environments that explicitly identify the importance of both routine and  
 10 urgent health care, as well as the overall importance of resident well-being.
- 11 • Establish resident wellness or assistance programs modeled after business employee  
 12 assistance programs that recognize and affirm the essential health care needs of residents.<sup>68</sup>  
 13 Characteristics of successful programs include voluntary participation; availability of  
 14 accessible, efficient avenues for care; existing policies provide safeguards related to  
 15 confidentiality; education regarding the availability of services is offered; and integration  
 16 with the GME program. Data from one residency assistance program indicate that more  
 17 than 50% of individuals seeking assistance do so for mental health or stress/adjustment  
 18 related problems. Residents express a strong preference for receiving care outside of the  
 19 training institution.<sup>109,110</sup>
- 20 • Actively discourage residents from working through illness.
- 21 • Encourage and reward role modeling of appropriate health promotion and self care by  
 22 attending physicians.

23  
 24 *Practicing Physicians*

25  
 26 Standards. AMA Policy H-95.955 defines impairment as “any physical, mental or behavioral  
 27 disorder that interferes with ability to engage safely in professional activities.” Accordingly,  
 28 physicians who are suffering from depression or other mental illness may fall under this rubric.  
 29 Some of the ethical issues involved with physicians who lack adequate health and wellness were  
 30 addressed in a report from the Council on Ethical and Judicial Affairs.<sup>111</sup> The derived Ethical  
 31 Opinion E-9.0305 notes that “to preserve the quality of their performance, physicians have a  
 32 responsibility to maintain their health and wellness, construed broadly as preventing or treating  
 33 acute or chronic diseases, including mental illness, disabilities, and occupational stress.”  
 34 Furthermore, the medical profession has an obligation to ensure that its members are able to  
 35 provide safe and effective care. This obligation is discharged in part by: (1) promoting health and  
 36 wellness among physicians; (2) supporting peers in identifying physicians in need of help; (3)  
 37 intervening promptly when the health or wellness of a colleague appears to have become  
 38 compromised, including the offer of encouragement, coverage or referral to a physician health  
 39 program; and, (4) establishing physician health programs that provide a supportive environment to  
 40 maintain and restore health and wellness.

41  
 42 With respect to hospitals, The Joint Commission Standards require all hospital medical staffs to  
 43 have a physician wellness committee or to work with already established physician health  
 44 programs in the state (see below).

45  
 46 Barriers. Thirty-five percent of physicians do not have a regular source of health care (more recent  
 47 survey data indicate this figure is substantially higher and may approach 65%).<sup>98,112</sup> Lack of a  
 48 source of regular health care is associated with the use of fewer preventive services. Physicians’  
 49 use of mental health services also appears to be low, but information is lacking on this topic.

1 Reluctance to seek assistance is influenced by fears that physicians who seek help may be placing  
2 their medical licenses in jeopardy. Based on a survey of state medical boards conducted in 2007,  
3 these fears may be somewhat justified.<sup>113</sup> More than one-third of responding state medical board  
4 executive directors indicated that diagnosis of mental illness by itself was sufficient for sanctioning  
5 physicians, and that physicians receiving psychiatric care are treated differently than those who are  
6 receiving other medical care. Similarly, more than one-third of states have the capability to  
7 sanction physicians on the basis of information revealed on the licensing application rather than on  
8 the basis of impairment.

#### 9 10 Interventions.

- 11 • State-based physician health programs are designed to ensure the personal health of physicians  
12 and to protect the public by providing support to physicians and avoiding punitive measures.  
13 They conduct screening assessments, help to coordinate interventions and treatment, make  
14 appropriate referrals, provide case management services, and encourage a collegial, supportive  
15 environment. Physicians are encouraged to seek guidance from these programs at the earliest  
16 sign of need.
- 17 • In 2003, the American Foundation for Suicide Prevention (AFSP) published the  
18 recommendations of a consensus conference devoted to evaluating the state of knowledge  
19 about physician depression and suicide and barriers to treatment. The recommendations  
20 emanating from this conference are located in the Appendix and remain relevant.<sup>114</sup>
- 21 • The AFSP also developed a one-hour documentary film as part of an educational campaign to  
22 heighten awareness about physician depression and suicide. The FREDDIE award-winning  
23 documentary, *Struggling in Silence: Physician Depression and Suicide*, premiered on KCET-  
24 TV of Los Angeles in the spring of 2008, and has aired on over 300 PBS stations nationwide.  
25 The campaign includes educational films and a website (DoctorsWithDepression.org). A  
26 companion film targeted to medical school students, *Out of the Silence: Medical Student  
27 Depression and Suicide*, is being disseminated by AFSP to medical schools across the country,  
28 and a third film has been created for use in hospitals, residency training sites and at educational  
29 conferences and seminars. These films include resource materials.
- 30 • Engage in outreach to medical students, residents and physicians at risk for suicide. A pilot  
31 project is underway to extend the outreach methods developed through the College Screening  
32 Project to medical students, residents and hospital physicians. The goals of this project are to  
33 identify individuals with serious depression and other problems that put them at risk for  
34 suicidal behavior, and encourage them to get treatment. It allows for anonymous online  
35 "dialogues" with a clinician to help resolve concerns about treatment that prevent many from  
36 seeking help. An initial participant in the pilot project is the University of Pittsburgh.

#### 37 38 SUMMARY AND CONCLUSION

39  
40 Medical school and residency are stressful periods of physician training, each with their own  
41 dynamic. Many medical students experience substantial distress, which contributes to a decline in  
42 mental health and well being. Depression and burnout are risk factors for suicidal ideation.  
43 Prospective longitudinal studies exploring changes in student stress, burnout, and QOL from the  
44 time of matriculation through the completion of residency training would be enlightening.

45  
46 Residents and practicing physicians also experience depression and burnout, and because they  
47 often lack a regular source of care, face barriers to the prompt diagnosis and treatment of mental  
48 disorders. Many studies on resident and physician distress were completed during a time when the  
49 demographics of the physician population were substantially different. In addition, the work  
50 environment for residents has undergone some changes since restrictions on duty hours were

1 implemented in 2003. While general agreement exists about the high degree of stress that  
2 accompanies medical training and practice, many studies on physician suicide were conducted at a  
3 time when the workforce predominately comprised white males. Research on medical student and  
4 physician suicide has been conducted on a global basis; however, the findings in European  
5 counterparts may not be directly applicable to U.S.-based physicians because of substantial cross  
6 cultural differences in training and work conditions.

7  
8 Nevertheless, the routine occurrence of burnout and mental disorders in physicians and physicians-  
9 in-training warrants continued examination and development of more transparent and efficient  
10 solutions. Several recommendations and action steps to address the occurrence of mental distress  
11 and suicide have been offered. However, the Council is not in a position to offer further concrete  
12 recommendations for preventing suicide in medical students, residents, and physicians without a  
13 more formal collaborative effort involving representatives from the medical education community,  
14 mental health professionals, and individuals with expertise in suicide prevention.

## 15 16 RECOMMENDATIONS

17  
18 The Council recommends that the following statements be adopted in lieu of Resolutions 322 (A-  
19 09) and 422 (A-09) and the remainder of the report be filed:

- 20  
21 1. That our American Medical Association pursue the formation of an expert panel to address  
22 the risk factors for suicide across the continuum of medical education and clinical practice  
23 in order to develop recommendations and solutions to prevent suicide in medical students,  
24 resident physicians, and physicians. (Directive to Take Action)  
25  
26 2. That Directive D-345.993, "Physician Suicide," be rescinded. (Rescind HOD Policy)

Fiscal Note: \$10,000 for work of the expert panel

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**Consensus Statement on Confronting Depression and Suicide in Physicians<sup>114</sup>**

**Recommendations for Research**

- Investigate physician patterns of seeking help, barriers to treatment, degree of impaired abilities, risk and protective factors for depression, substance abuse, and suicidality, including the role of medical specialty and personal or professional stressors.
- Conduct a large psychological autopsy study of physician suicides to determine risk and protective factors, patterns of seeking help, quality of care, and adherence to treatment.
- Determine the current incidence rate of completed suicide by US physicians, including the effect of sex, ethnicity, and specialty.

**Recommendations for Physicians**

- Establish a regular source of health care and seek help for mood disorders, substance abuse, and/or suicidality.
- Learn to recognize depression and suicidality in themselves and educate medical students and residents to do likewise.
- Become informed about state and federal protections for confidentiality of medical records and about legal protections for physicians and others with disabilities.
- Routinely screen all primary care patients for depression, as recommended by the US Preventive Services Task Force. Screening for depression in patients can help physicians recognize depression in themselves.

**Recommendations for Institutional Change (Professional Organizations for Physicians, Residents, and Medical Students)**

- Educate physicians, state licensing boards, hospitals, group practices, and malpractice insurers about the public health benefits of encouraging physicians to seek treatment for depression and suicidality. Consider developing model regulations and policies for state licensing boards, hospitals, and malpractice insurers that encourage physicians to seek help.
- Provide boards with a model relicensure mailing that encourages help seeking for all health conditions and asks screening questions about depression and suicidality, along with other health questions (eg, have you checked your blood pressure?). The answers should be solely for personal use and should not be returned.

State Licensing Boards

- Ensure that licensure regulations, policies, and practices are nondiscriminatory and require disclosure of misconduct, malpractice, or impaired professional abilities rather than a diagnosis (mental or physical).
- Encourage development of continuing medical education curricula on physician depression, suicidality, and risk and protective factors.

Medical Schools and Residency Programs

- The Liaison Committee on Medical Education and the Accreditation Committee on Medical Education should mandate that medical schools educate medical students and residents about depression and suicidality, encourage them to seek help, and offer social support for any student or resident who seeks help.

Hospital and Health Care Accrediting Organizations

- Impose health system accountability through the Joint Commission on Accreditation of Healthcare Organizations for detection and treatment of depression in all primary care patients, in accordance with the recommendation of the US Preventive Services Task Force.