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Re-flections

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letter from the editor

Dear Readers:

Some conditions that we see in the course of medical underwriting are relatively easy to quantify. For instance, echocardiogram reports often mention the specific degree of severity of valvular heart disease. Since most typical underwriting manuals assign debits for medical conditions dependent on the degree of severity of each disorder, underwriters are generally comfortable when assessing this type of situation. Unfortunately, not all medical conditions lend themselves this easily to risk stratification. In my experience, many underwriters have difficulty assessing risk factors for most of the commonly seen mental disorders. This edition of *Re-flections* will focus on three facets of mental disease; specifically eating disorders, attention deficit/hyperactivity disorders, and suicide risk factors. I hope that you find the following articles interesting, and that they stimulate your own thoughts on how best to deal with these conditions.

J. Carl Holowaty, M.D.

"to be or not to be"

hamlet: act iii, scene 1

risk factors for suicide

Suicide is currently the eighth leading cause of death in America[1]. It accounted for approximately 30,000 deaths in 1998 (11.3/100,000 population). Within the 15-24 year-old age group, it is the third leading cause of death behind accidental death and homicide. In addition, it is suspected that the incidence of suicide is underreported. There may be several explanations for this concern. The classification of suicidal death is often not an easy matter. In many cases, cooperation must occur between medical practitioners, coroners and criminal investigators to allow this determination to be made. In general, jurisdictions with a low autopsy rate probably tend to classify some suicidal deaths as being due to natural causes, particularly in the elderly[10]. In addition, the social and religious milieu of a region or country can affect the reported rates of suicide. It is suspected that the greater the social condemnation of suicide, the less likely the cause of death will be reported as suicide. >>>

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Table 1. Suicide Rates by Sex and Country, 1990 (source: World Health Organization)

	Rate (per 100,000 population)		
Country	Male	Female	Ratio M:F
Canada	20.4	5.2	3.9
Germany	24.9	10.7	2.3
France	29.6	11.1	2.7
Japan	20.4	12.4	1.6
Hong Kong (1995)	12.5 (combined figure)		
Mexico	3.9	0.7	5.6
United Kingdom	12.6	3.9	3.5
United States	19.9	4.8	4.1

>>> Estimation of the risk of suicide is obviously important to underwriters, but is often met with a great deal of trepidation. Unlike some conditions, it is not easy to quantify the risk, since there are no lab tests or procedures to measure the severity of the risk. A thorough understanding of the risk at hand can, however, help to alleviate some of this discomfort. A few facts will shed more light on the relative risk present when evaluating the potential for suicide. It is well-established in the United States that suicide rates increase with age and are highest in people greater than 65 years of age, particularly those that are divorced or widowed. The suicide rate of young people is about 13.5/100,000, whereas that of white males over the age of 85 is about 70/100,000[11]. While females are more likely to attempt suicide, males are four times more likely to die from suicide[1]. This trend is also evident in most countries[14], with the notable exception of Hong Kong, where young females commit suicide at a higher rate than young males[12]. Death by firearms in the U.S. accounts for three out of five suicides and is the most common form of suicide in both males and females, although males use this method more frequently than females. The prevalence of other methods of suicide differs by country, and may reflect the relative availability of tools found in that country.

Suicide has been well-studied by epidemiologists. It appears that certain occupations are at a higher risk for suicide. Several of these groups include anesthesiologists[2,3], veterinarians[4], dentists, pharmacists, medical practitioners[14], police officers [5,6], farm workers[7] and construction workers[8]. One societal group at very high suicide risk is that of prison inmates[9].

What are the factors in a specific case that can help to determine suicide potential? The following factors, established by the Center for Disease Control[13], are associated with increased risk for suicide, especially when more than one factor is present. I have added my own additional comments where I feel that further explanation is necessary.

1. *Past history of suicide attempts*
2. *Family history of suicides*
3. *Possession of firearm(s) at home*
4. *Consumption of alcohol or substance abuse. The lifetime risk of suicide in cases of alcoholism is estimated to be 7 - 15%[14].*
5. *History of depression. It is estimated that there is a prevalence of mental disorders of 80-100% in cases of completed suicide [14]. The lifetime risk of suicide in people with depression is 6 - 15% and 4 - 10% in people with schizophrenia[14]. Although between 40 - 60% of cases with completed suicide have seen a physician within the last month for mental conditions, a substantial number have no prior history of care from mental health professionals[14].*
6. *History of physical, sexual, domestic or child abuse*
7. *Experience of unusual stress such as marital separation or divorce*
8. *Time in prison*
9. *Existence of medical conditions*
10. *Frequent moves*
11. *Poor parent/child communication*
12. *Social isolation*

In the younger populations, additional factors may include a history of interpersonal conflicts, disciplinary or academic problems at school, and impulsivity. An additional factor that applies to working adults is the loss of occupation, but probably only when other significant factors are present.

The most likely consistent factor seen in the vast majority of completed suicides is a history of mental illness, particularly depression, with or without other co-morbid conditions. Within this group, the major prognostic factors are the severity of depression, suicidal ideation and sense of hopelessness. Another co-factor suggested by some researchers is a perfectionistic personality trait[20]. Other mental conditions associated with

underwriting of eating disorders (ED)

There are three clinical entities which make up this category of psychiatric illnesses according to the Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition (DSM IV). They are Anorexia Nervosa (AN), Bulimia Nervosa (BN) and Eating Disorders Not Otherwise Specified (ED - NOS). Essentially, the latter represents a significant ED that fails to meet the stringent criteria outlined in DSM IV for either AN or BN.

AN is characterized by a severe disturbance in eating behavior and body-image manifest by refusal to maintain a minimally normal body weight (<85% of weight considered normal for sex, age and height). Individuals are intensely afraid of gaining weight and postmenarchal females are amenorrheic. Interestingly, individuals rarely suffer from a loss of appetite and as such the term anorexia is a misnomer.

Weight loss is accomplished primarily through a reduction in total food intake and some may purge through vomiting and laxative abuse. The intense fear of becoming overweight is not alleviated by weight loss, and in fact may intensify as weight loss progresses. Most individuals claim to feel globally overweight or require “sculpting” of body areas considered fat. An individual’s self-esteem is highly dependent on self-perception and weight loss is viewed as an impressive achievement signifying extraordinary self-discipline. Anorexics are typically in denial regarding the potentially serious medical complications of their prolonged malnourishment. In females, amenorrhea is an indicator of endocrine physiologic dysfunction when present for at least three consecutive cycles.

There are two subtypes of AN known as restricting and binging/purging. Restricting individuals accomplish their weight loss primarily through dieting, fasting or excessive exercise whereas the binging/purging subtype has regularly engaged in either or both behaviors at least weekly during their current episode.

Many individuals known to suffer from AN manifest depressive symptoms and abuse alcohol or illicit drugs. These behaviors are usually found in the binging/purging subtype.

BN is characterized by binge eating and inappropriate compensatory methods to prevent weight gain at least two times per week for three months. A bulimic will consume, reflective of an “ox-like” hunger, an amount of food that is considerably larger than most individuals would eat under similar circumstances.

Similar to AN, affected individuals’ self-esteem is strongly influenced by body shape and weight. Bulimics are ashamed of their eating problems and conceal their behavior. Eighty-to-ninety percent of individuals induce vomiting as a means of weight control. There are two subtypes; the purging type and the non-purging type, as defined during the current episode. These individuals, in contrast to AN, are typically within the normal weight range but are susceptible to many of the same associated features as previously described for AN subjects.

The epidemiology of ED reveals that they are far more prevalent in industrialized societies where being considered attractive is synonymous with being thin. It is most common in the U.S., Canada, Europe, Australia, Japan, New Zealand and South Africa. When the illness begins during early adolescence (ages 13 - 18), it is considered to have a better prognosis. Ninety percent of cases are females. Prevalence studies among females in late adolescence and early adulthood suggest 0.5% - 1.0% are affected by AN with 1.0% - 3.0% being affected by BN. The incidences of both illnesses are believed to be increasing. The mean age of onset is 17 and onset after age 40 is considered rare. Onset is often marked by a stressful life event, however the course and duration are highly variable. Death has traditionally been attributed to starvation, suicide or electrolyte imbalance. The issue of underreporting is always mentioned in the literature. There is increased risk for ED among first-degree relatives of both AN and BN patients as well as increased frequencies of mood disorders, substance abuse and dependency.

A recent comprehensive prospective study of 246 ED patients with 11 years of follow-up in Massachusetts by Herzog et al. has revealed several interesting observations of relevance to underwriting. The design of the study attempted to avoid the methodologic limitations of previous studies with respect to substantial attrition rates, exclusive sampling of severely ill patient populations, retrospective studies which did not document the course of the ED, absence of co-morbidity data, etc. Herzog found the crude mortality rate for AN to be 5.1% over 11 years which translated into a SMR of 9.6 with a 95% CI (3.86 - 19.8). The SMR for AN suicide was even more disturbing at 58.1 with a 95% CI (11.7 - 169.7). There were seven deaths out of 136 subjects with an AN diagnosis and of these, three committed suicide. There were no deaths amongst 110 BN subjects. Of note, all seven deceased AN subjects were B/P subtype and had significant co-morbid illness at some point in their ED history. Six-of-seven

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>>> had a history of alcoholism, 4/7 had a history of bipolar illness, 3/7 had experienced a major depressive disorder and 3/7 were known to have an extensive, illicit drug-abuse history. In addition, 6/7 had been hospitalized at least once and 6/7 had expressed suicidal ideation with 2/7 having made a previous attempt.

In discussion of these results, researchers noted a longer duration of illness in AN as predictive of a fatal outcome, with 5/7 deaths having an ED history in excess of 20 years. The report alluded to an underreporting of ED-associated deaths from death statistics in that 0/7 of the death certificates in the study listed ED as a contributing cause of death. The findings support that BN carries a much lower risk, however, the specific mortality relationship remains unclear. BN morbidity appears to be particularly responsive to Cognitive Behavioral Therapy (CBT), a form of psychotherapy, which may partially explain these results.

Mortality risk features that apply to all ED patients would include a past history or current episode of binging/purging, alcoholism or drug abuse or affective disorder co-morbidity. It is believed the combination of prolonged malnutrition and alcoholism may synergistically increase the chances of fatal cardiac arrhythmias, seizures, alcohol poisoning, infections and cirrhosis. Co-morbid substance abuse has been found by other researchers to approximately double the risk of sudden death for individuals with affective disorders. Unfortunately, treatment recommendations for ED patients, especially high-risk patients, are sorely lacking, and as such, the caveat 'underwrite with caution' is applicable to this population of individuals who likely make up a small yet significant portion of the insurance-buying population.

Richard Rougeau, M.D.

attention deficit hyperactivity disorder

Attention Deficit Hyperactivity Disorder, also referred to as Attention Deficit Disorder, (ADHA, ADD) is the most commonly diagnosed psychiatric disorder in children. Although it was originally thought to be solely a childhood disorder, most frequently occurring in school-aged boys, it is now commonly diagnosed in adults as well. Recently there has been an increase in cases, however it is unknown whether this is an actual increase in people exhibiting symptoms or a result of more public awareness of the disorder as well as availability of treatment. It is estimated that half of children with ADHD will continue to exhibit symptoms into adulthood.

There are three subtypes of ADHD, each distinguished by its own characteristic symptoms in the patient during the previous six months. The three types are:

1. *Inattentive type - Characterized by difficulty focusing on tasks, disorganization, losing or forgetting things, and problems completing tasks.*
2. *Hyperactive-Impulsive type - Characterized by fidgeting, restlessness, inability to sit still, difficulty waiting for their turn, difficulty controlling impulses.*
3. *Combined type - Exhibits the symptoms of both of the above types.*

The diagnosis of ADHD in children is made through interviews with parents and teachers, and by ruling out other health problems such as seizures, anxiety, and vision/hearing problems. Adults are usually diagnosed by interviewing the patient and family members. For the diagnosis to be made, the patient must have difficulty functioning in two of the following areas: school, work, social situations, and/or at home. Symptoms must be present for at least six months.

The cause of ADHD is unknown, however, current knowledge suggests that it is not due to food allergies, excessive sugar consumption, unsatisfactory schools or poor parenting, as was once thought. In recent studies of adults with ADHD, MRI images showed that areas of the brain stem that control attention use less glucose (and thereby are less active) than in adults without ADHD. In addition, ADHD tends to run in families, suggesting a genetic link.

In both adults and children, treatment of ADHD usually consists of both medication and behavioral therapy. Typically, stimulant medications are prescribed; the most common are Ritalin, Dexedrine, Cylert, and Adderal. If these fail to help, antidepressants are sometimes effective. The mechanism of action of these drugs is unknown, however they alleviate many of the symptoms of ADHD. In addition to medication, patients can learn cognitive techniques to help with such things as focusing attention or completing tasks.

In underwriting applicants with ADHD, it is important to be sure that other causes of these symptoms have been ruled out. Learning disabilities, hearing problems, vision problems, depression, and seizure disorder can all mimic ADHD symptoms. Untreated children are more likely to injure themselves, and untreated adolescents are more likely to be in automobile accidents. In addition, there are a number of conditions that often accompany ADHD, such as anxiety, depression, conduct disorder, learning disabilities, and Tourette's syndrome. When underwriting, it is important to take these factors into account, in addition to any ADHD rating necessary.

Jeanne Mariani

increased suicidal risk are bi-polar depression and schizophrenia. The lifetime risk of suicidal death in bipolar affective disorder sufferers is estimated to be 20%. At least 25 to 50% of patients with bi-polar disorder also attempt suicide at least once[16].

Among clients with a history of depressive illness, often the most difficult problem faced by underwriters is estimating the severity of the depression as well as the significance of the suicidal ideation. Frequently an Attending Physician's Statement will only state that a client has a history of 'major depression' and may provide a time of diagnosis. In general, I feel that in order for a depression to be considered severe, there should be evidence of time lost from work and possibly a history of hospitalization. Additionally, there may be mention of suicidal ideation, intent, or attempt. Invariably, cases of severe depression should also include the use of antidepressant drugs and possibly electro-convulsant therapy (ECT). More moderate forms of depression will include recurrent major depressions without significant disability and lack a history of suicidal ideation. The least severe cases might involve chronic non-disabling forms of depression that often last for years and are often associated more with symptoms of anxiety than depression.

Severity of suicidal intent can run the gamut from a brief period on wondering if 'life is worth living', to more frequent periods of general thoughts of killing oneself, to well-formulated plans or actual attempts at committing suicide. This type of information, often available from psychiatric reports, can assist in quantifying the risk of suicide.

It is estimated that as many as 15% of depressed patients eventually die of suicide[22]. The overall suicide mortality rate among depressed individuals is 59/100,000 person years. The modality of treatment used in depression has been correlated to suicide mortality in the insurance population. Among depressed patients who require inpatient care, the risk of suicide is 224/100,000 person years. Those treated at specialty outpatient facilities experienced a risk of 64/100,000. Those treated with only antidepressant medications experienced a risk of 43/100,000 and those not requiring anti-depressant medications showed essentially no additional risk of suicide[22].

The effect of pharmacotherapy on depression-related suicides has been subjected to several studies. While it appears clear that use of lithium is consistently shown to reduce suicide in bi-polar disorders, there are conflicting study results when both the tri-cyclic antidepressants and SSRI's were investigated for use in unipolar depression. Although both of these classes of drugs alleviate the symptoms of depression, there is still some doubt remaining as to their ability to mitigate suicidal outcome in depression [23-29].

Suicidal ideation is a very common finding in society. A study described in the Archives of Internal Medicine 2000 (May 22;160(10):1522-6) suggests that suicidal ideation has occurred at some point in the lives of young adults in 16.3% of cases. This percentage increases to 25.2% when one medical illness is present, and to 35% when two or more illnesses are present. Within this same group of respondents, 5.5% admitted to a prior suicide attempt, while in those with one medical illness, the number increased to 8.9%. The suicide attempt rate in those with two or more illnesses was 16.2%[18]. Clearly suicidal ideation and suicide attempts are not rare occurrences.

A number of physical illnesses are specifically associated with increased suicidal risk (although in most cases co-existing depression is present). These conditions include HIV/AIDS, malignant neoplasms as a group, head and neck cancers, Huntington's disease, multiple sclerosis, peptic ulcer, renal disease, spinal cord injury, systemic lupus erythematosis[17], asthma[18] and epilepsy[15]. In cancer patients, the highest suicide mortality was observed between three and five months after diagnosis, and frequently soon after discharge from hospital[19].

Statistically the age group most at risk for suicide is the elderly, for a number of reasons. As a group, they often suffer from despondency and in many cases have co-morbid physical health problems. These problems are often chronic and progressive in nature. Within this group it is to be expected that a certain degree of social isolation is brought on by loss of marital partners and friends. The majority of the elderly who commit suicide have no history of psychiatric referral and only a small number have received adequate pharmacotherapy[21]. The reason for this apparent under recognition and undertreatment is not well-explained.

Suicidal ideation and completed suicide are clearly globally pervasive problems and a leading cause of death. I trust that some of the information presented in this article will assist you in the risk assessment of this problem.

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