# Late-life Depression and Alcoholism

*Frederic C. Blow, PhD, Alisha M. Serras, MSW, and Kristen Lawton Barry, PhD*

**Corresponding author**
Frederic C. Blow, PhD
University of Michigan Department of Psychiatry, 4250 Plymouth Road, Campus Box 5765, Ann Arbor, MI, 48109-2700, USA.
E-mail: fredblow@umich.edu

**Current Psychiatry Reports** 2007, **9:**14–19
Current Medicine Group LLC ISSN 1523-3812
Copyright © 2007 by Current Medicine Group LLC

The relationship between alcohol use and late-life depression is complex. At-risk and problem drinking elevates the risk of depressive symptoms. The co-occurrence of alcohol use disorders and depression increases the potential for poor mental and physical health outcomes in older adults. Many older adults who are experiencing problems related to alcohol use do not meet alcohol abuse/dependence criteria. Depressive symptoms among older adults often are overlooked or misdiagnosed. The role of at-risk and problem alcohol use in depressive symptoms and vice versa may be underestimated. After a review of the literature, clinical recommendations for addressing late-life alcohol misuse and depression are presented.

## Introduction

Substance abuse and mental health problems among older adults are associated with poor health outcomes, increased disability, and higher health care utilization. The co-occurrence of alcohol problems and mental disorders in late life can result in greater complexity in the course and prognosis of many mental and physical illnesses and an overall compromised quality of life. Both depression and problems related to alcohol consumption, particularly at-risk drinking, are common in older adults. Approximately 5% of elderly individuals living in the community meet research criteria for major depression; moreover, 15% to 20% of older adults have significant depressive symptoms [1–3]. Misuse and abuse of alcohol also are significant health problems among older adults, among those living in the community, and among health care-seeking populations [4–6]. The combination of depression and problems related to alcohol consumption significantly increases the potential for poor mental and physical health outcomes. Although the signs often are missed or misdiagnosed among clinicians, undertaking the challenges of accurate identification, assessment, and intervention for both alcohol misuse and depressive symptoms are of critical importance for this population.

## Alcohol Problems in Later Adulthood

The misuse and abuse of alcohol are significant health problems among the growing population of older adults. The concern for alcohol use is highlighted by the literature demonstrating that not only are alcohol misuse and abuse common in this population, but also that problem drinking likely affects a larger proportion of the elderly population than previously thought [7]. Prevalence estimates of problem drinking in older adults derived from community surveys have ranged from 1% to 15%, and much higher rates (15% to 58%) have been estimated among older adults presenting in health care settings [4–6]. In 2002, more than 616,000 adults aged 55 and older reported alcohol dependence in the past year (*DSM-IV* definition): 1.8% of those aged 55 to 59, 1.5% of those aged 60 to 64, and 0.5% of those aged 65 or older [8]. These rates vary widely depending on methodology and the definitions of at-risk and problem drinking or alcohol abuse and dependence. Nonetheless, these rates are likely to increase with the rapid increase in the older adult population resulting from the aging of the "Baby Boom" cohort (those born between 1946 and 1964), a group likely to have increased rates of problems with alcohol and other drugs because of different exposure, attitudes, and behaviors regarding use of substances [7,8].

Estimates of alcohol problems are much higher among health care-seeking populations because problem drinkers are more likely to seek medical care [9•]. Studies in primary care settings have found that 10% to 15% of older patients met criteria for at-risk or problem drinking [10,11]. Two recent studies among veterans in nursing homes reported that 29% to 49% of residents had a lifetime diagnosis of alcohol abuse or dependence, with 10% to 18% having reported active dependence symptoms in the past year [12,13]. The interactions between alcohol and medications are of notable importance to older populations. Interactions between psychoactive medications, such as benzodiazepines, barbiturates, and antidepressants, are of particular concern. Combined difficulties with alcohol and medication misuse may affect up to 19% of older Americans [14,15]. Alcohol

use can interfere with the metabolism of many medications and is a leading risk factor for the development of adverse drug reactions [14,16]. Finally, the presence of co-occurring psychiatric conditions (dual diagnosis), including comorbid depression, anxiety disorders, and cognitive impairment, likely represents both a risk factor and a complication of alcohol abuse and medication misuse in older adults [17].

**Categorizing at-risk drinking in older adults**

Although *DSM* criteria are widely used and distinguish between abuse and dependence, the majority of older adults who are experiencing problems related to their drinking do not meet *DSM-IV* criteria for alcohol abuse or dependence [7,18]. These criteria may not be pertinent to many older adults with substance use problems, as people in this age group do not often experience the legal, social, or psychological consequences specified in the criteria. For example, "a failure to fulfill major role obligations at work, home, or school" may be less applicable to retired individuals with fewer familial and work obligations [7]. Further, a lack of tolerance to alcohol may not be as appropriate an indicator of alcohol-related problems in the elderly as in younger age groups. Most *DSM* criteria for tolerance are based on increased consumption over time. This ignores the physiologic changes of aging that lead to physiologic tolerance at lower levels of alcohol consumption. Another important aspect of the *DSM* criteria relates to the physical and emotional consequences of alcohol use. These criteria may be especially important in identifying alcohol problems in older adults.

Compared with younger adults, older individuals have an increased sensitivity to alcohol that increases potential harm. Sensitivity to and tolerance of ethanol are affected by physiologic aging processes, as well as by health problems more common at older ages [7,14]. Alcohol consumption in amounts considered light or moderate for younger adults may have untoward health effects on older individuals. There is an age-related decrease in lean body mass versus total volume of fat, and the resultant decrease in the aqueous volume increases the effective concentration of alcohol and other mood-altering chemicals in the body [19]. Liver enzymes that metabolize alcohol and other drugs are less efficient with age. Central nervous system sensitivity to drugs also increases with age. Because drinking produces higher and longer-lasting blood alcohol levels in older adults than in younger people when comparable amounts of alcohol are consumed, many problems common among older people, such as chronic illness, poor nutrition, and polypharmacy, may be exacerbated by even small amounts of alcohol [19].

**At-risk drinking in later adulthood**

To address at-risk drinking, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) developed separate alcohol consumption guidelines for adults aged less than 65 and for those aged 65 or older [14]. These guidelines are based on current rigorous research and, therefore, change as our knowledge changes and expands. Based on the biological, psychological, and social circumstances of aging, older adults pose special challenges for developing appropriate alcohol consumption guidelines. Of particular concern in this age group is the potential interaction of medications and alcohol. For some people, any alcohol use coupled with the use of specific over-the-counter or prescription medications can be problematic. Hence, recommended limits on alcohol consumption for older adults generally are lower than those set for adults aged less than 65.

Both the NIAAA and the Center for Substance Abuse Treatment's Treatment Improvement Protocol on older adults now recommend that individuals aged 65 and older consume no more than one standard drink per day or seven standard drinks per week [7,14]. In addition, older adults should never consume more than two standard drinks on any drinking day, with four or more drinks on any drinking day defined as a binge episode. In the United States, one standard drink contains 12 g of ethanol; in the United Kingdom and Europe, one standard drink contains 8 g of ethanol. This means that individuals can equate the quantity of alcohol across beverage types: Totals of 12 oz of beer, 5 oz of wine, and 1.5 oz of distilled spirits all contain roughly equivalent amounts of alcohol. These drinking guidelines for older adults are consistent with research data evaluating the relationship between consumption and alcohol-related problems in this age group [20]. The recommendations also are consistent with the current evidence on the beneficial health effects of drinking [9•,21].

**Positive and negative aspects of alcohol consumption**

However, the evidence remains conflicted regarding the positive and negative aspects of alcohol consumption. There is growing evidence that among otherwise-healthy adults, especially middle-aged adults, moderate alcohol use may reduce cardiovascular disease, may reduce the risk of some dementing illnesses, and may have benefits in reducing cancer risk [22–24]. However, little research in these areas is conducted with older adults. Alcohol in moderate amounts may improve self-esteem or provide relaxation. Alcohol often is consumed socially and may help to reduce stress, at least temporarily. One study of moderate and heavy drinking among older adults found that the greater the number of drinks consumed per day, the poorer the psychosocial functioning reported by the subject [25]. The frequency of drinking was not related to psychosocial well-being, suggesting that binge drinking was a more significant factor. Levels of alcohol use that are often considered moderate but are above recommended guidelines of no more than one drink per day pose challenges for clinicians who advise older adults [26].

With the mixed results regarding the detrimental effects and potential benefits of alcohol use, clinicians may feel confused regarding whether they should rec-

ommend no change in consumption or a reduction in consumption for older adults who do not meet criteria for abuse/dependence. This confusion can lead to the recognition of at-risk drinking levels without providing any recommendations regarding use. Conigliaro et al. [27] surveyed patients in all age groups identified as "problem drinkers" who recently had a primary care visit. The majority of the patients remembered having a discussion with their doctor about drinking, but only one half remembered being advised to reduce consumption. For older adults who are more susceptible to both the physiologic and the psychosocial effects of substance use, erring on the side of caution with nonconfrontational messages and follow-up generally is the most practical and effective approach.

## Depression in Later Adulthood

In addition to concerns about the potential for problems related to alcohol misuse, mental health issues such as depression have been recognized as major public health concerns in older adults. Up to 15% to 20% of older adults have significant depressive symptoms [1]. Estimates vary for the prevalence of major depression, depending on procedures and definitions used for calculation. One-year prevalence for major depression using *DSM* criteria estimates approximately 5% or less for older individuals [2]. An estimated 2 million of the nearly 35 million Americans aged 65 or older have a depressive illness (major depressive disorder, dysthymic disorder, or bipolar disorder), and an additional 5 million may have "subsyndromal depression," or depressive symptoms [3].

Relevant diagnosis is important to a discussion of depression among older adults. Most older adults with depressive symptoms do not meet full *DSM* criteria for major depression [2]. For example, major depressive disorder cannot be diagnosed if symptoms last for less than 2 months after bereavement, among other exclusionary factors. Some clinicians and experts use the diagnostic entity minor depression, a subsyndromal form of depression. According to *Mental Health: A Report of the Surgeon General* [2], the diagnosis of minor depression is not yet standardized, but the criteria are similar to the *DSM* criteria for major depression, but with fewer symptoms and less impairment. Rather than a single syndrome, minor depression is considered a diverse group of syndromes that may include dysthymia (a mild but chronic form of depression), an early or residual form of major depression, or a response to a major stressor.

Among older adults, depressive symptoms are much more common than major depression. The prevalence of major depression declines with age, whereas depressive symptoms increase [28]. Depressive symptoms and syndromes have been identified in 8% to 20% of older adults in the community, and 17% to 35% of older patients in primary care settings [1,2,29]. Among residents in long-term care settings, one research study found 15.7% displayed possible major depression, and 16.5% displayed minor depressive symptoms [30]. The impact of a combination of depressive symptoms can be as disabling as major depression [2]. Subsyndromal depression, particularly common among older adults, is associated with increased risk of major depression, physical disability, and medical illness, and high use of health services [2,3,31].

Depression is not a normal part of aging. In addition to emotional distress and pain, depression in older adults leads to impairments in physical, mental, and social functioning [2]. Although research has clearly demonstrated the importance of diagnosing and treating depression in older adults [32], depression among older adults often is unrecognized. Depression is more difficult to detect and assess among older patients and consequently remains undertreated. Although treatment often is successful, a notable proportion of older adults receive insufficient or no treatment at all for their depressive symptoms in primary care settings [2,3,33].

Depression in later life also is associated with increased risk of suicide. Adults aged 65 and older have the highest suicide rates of any age group. The suicide rate for those aged 85 and older is the highest (particularly among older white men), at almost twice the overall national rate [2,34]. Despite high rates of suicide among the elderly, relatively low prevalence makes prospective studies of geriatric suicide rare. The current knowledge base regarding geriatric suicide is not able to distinguish definitively casual risk factors from correlates or fixed markers of risk [35]. The causes of elder suicide are multifaceted; no single factor precipitates or explains geriatric suicide. Studies regarding geriatric suicide have been less extensive and rigorous than those studies regarding suicide among other age groups [36]. Most studies rely on psychological autopsy techniques that do not collect information directly from the individual. Suicide in older adults has been most associated with late-onset depression. For example, one study found among individuals aged 75 and older and committing suicide, 60% to 75% had diagnosable depression [37].

## Comorbid Alcohol Abuse/Dependence and Depression

The literature that addresses comorbid alcohol abuse/dependence and affective disorders in older adults is limited. Research has shown a strong association between depression and alcohol use disorders across age cohorts; this linkage continues in later life. Depression and alcohol use are the most commonly cited co-occurring disorders in older adults. Among individuals aged 65 and older, 13.3% of those with lifetime major depression also met criteria for a lifetime alcohol use disorder, whereas only 4.5% had a lifetime alcohol use disorder without a history of depression [38].

Studies of clinical populations have demonstrated the prevalence of comorbid affective disorders and alcohol abuse among older adults. A report specifically examining the relationship of geriatric depression to co-occurring substance use disorders found that approximately one fifth of older adults with depression have a co-occurring alcohol use disorder [39]. Similar rates of co-occurring disorders have been reported in other studies of older adults in psychiatric outpatient clinics (15%) and psychiatric inpatient settings (21%) [40,41]. Reports from the National Longitudinal Alcohol Epidemiologic Survey (NLAES) indicated that individuals aged older than 65 with alcohol use disorders were three times more likely to have a major depressive disorder than those without [38].

Blixen et al. [42] found 38% of older adults admitted to a freestanding psychiatric hospital had both a substance abuse disorder and another psychiatric disorder, primarily depression. Speer and Bates [40] found that 48% of older psychiatric inpatients had received mood disorder plus alcohol abuse diagnoses. Blow et al. [43] found major depression among 8% to 12% of older adults in alcohol treatment, and dysthymic disorder among 5% to 8% of the same population.

At-risk and problem drinking among the elderly is likely to exacerbate existing depressive disorders. Patients with this comorbidity can be more difficult to diagnose and treat because each illness may complicate the other [44]. Subsyndromal depression may be aggravated by drinking to the point of meeting criteria for a depressive disorder, as exemplified in grief-associated major depression or late-life adjustment disorders with depressed mood [45].

As indicated in a recent study by Oslin [46••], among those with comorbid depression and alcohol dependence, those who refrained from heavy drinking had a more favorable response to depression treatment than those who had had any relapse back to heavy drinking. Although abstinence was not indicative of improvement of depressive symptoms, the frequency and quantity of drinking had an inversely proportionate effect on the efficacy of depression treatment. Thus, there is a significant relationship between drinking and depression, and it is not sufficient to treat one without treating the other [46••].

Co-occurring addictive and psychiatric disorders among older adults are associated with poor health outcomes, higher health care utilization, increased complexity of the course and prognosis of mental illness, heightened mortality, and higher rates of active suicidal ideation and social dysfunction relative to individuals without either disorder alone [2,3,7,14,17].

Among all ages, the co-occurrence of diagnosed alcohol abuse and mood disorders is associated with greater suicide risk than either diagnosis alone. Waller et al. [47] found that mixed-age veterans with unipolar or bipolar affective disorders and a concurrent alcohol use disorder consistently had increased suicidality risk. Examining mixed-age depressed alcoholics distinguished from patients with either major depression or alcohol dependence alone, Cornelius et al. [48] found depressed alcoholics "suffer an additive or synergistic effect of two separate disorders, resulting in a disproportionately high level of acute suicidality upon initial psychiatric evaluation."

## Future Trends

Drinking patterns over the life course and among age cohorts vary significantly, with the Baby Boom generation drinking greater quantities and more frequently than earlier cohorts [49]. Grant [50] emphasized that the social structure, attitudes, and expectancies of each cohort affect the extent to which members of that cohort engage in heavier drinking and experience more alcohol-related problems.

Over the last century, there has been a shift to increasingly earlier ages for onset of alcohol use and an increased likelihood of alcohol dependence among drinkers. Grant [50] also reported increasing convergence in the rates and patterns of substance abuse/dependence of men and women over the last century, with women coming closer to the higher rates of abuse/dependence consistently reported for men over time. Recent studies also indicate continuing substantial changes in patterns of substance use and abuse in different age cohorts, particularly among those born after World War II [15,49]. The results of large national survey studies such as the NLAES [49] indicate that the Baby Boom cohort appears to have higher rates of alcohol and other drug abuse/dependence than expected based on previous midlife cohorts. This combination of factors, the growing population of older adults who use alcohol and the risks of comorbid alcohol misuse and depression, makes this an important emerging trend and a concern for geriatric clinical practice and research.

## Conclusions and Clinical Recommendations

The health care delivery system remains one of the most efficient and effective venues in which to detect at-risk drinking and depressive symptomatology in older adults. It also is a key setting for interventions to improve the quality of life for many older adults and to decrease suicide rates in this population. There is a growing knowledge base of useful screening tools, assessment, and treatments for late-life alcohol misuse and depression, as well as a better understanding of the existing barriers to timely recognition and appropriate treatment [2,7].

Many clinicians may need skills training to utilize methods to quickly assess the quantity and frequency of alcohol and other psychoactive prescription drug use, depression, and suicide risk among older adults. Providers are less likely to recognize and treat alcohol misuse or depression [2,3,7,33] in older individuals. Health

care delivery occurs in a fast-paced environment, with many competing demands being placed on clinicians. In addition to the medical component of treatment, older adults also should be referred to psychosocial treatments, which in conjunction with medical treatment will, in effect, treat the whole individual. Moreover, due to the patient load many health care providers face, it is necessary to incorporate additional staff who can help to relieve the physician's burden, adding continuity to the care of older adults. The continuity of care would enhance their quality of life. Recent research has shown that happiness is associated with spirituality and helping others [51]. Psychosocial treatment focused on expanding the social network and increasing spirituality could improve treatment outcomes [52]. Older adults dealing with depression and comorbid substance use disorders also may find 12-step mutual aid groups such as Alcoholics Anonymous helpful.

Because many older adults confront multiple challenges, including social isolation, loss and grief, economic difficulties, and physical illnesses, health care professionals may make the mistake of assuming symptoms are an inevitable result of these difficulties and thus not recognize characteristics of depression and/or alcohol misuse. Targeted training that focuses on the identification and treatment of older adults with alcohol problems and/or depression could improve clinicians' skills and efficacy. Effective interventions exist both for at-risk drinking and for late-life depression [7]. Early identification and the use of motivational brief interventions are effective in reducing drinking and problems associated with drinking among older individuals [7] and show promise for those with comorbid depression and alcohol problems [46••,53••].

There remain challenges to instituting these best practice techniques in the current health care delivery system, including issues of Medicare coverage, mental health coverage in private health insurance plans, and access to care. However, changes in the health care environment in the United States underscore the importance of using these brief, cost effective techniques and technologies for older adults with at-risk drinking and/or depressive symptoms. Innovative identification and intervention delivery methods, including the use of telephone disease management, are promising new approaches for addressing the complex issues of depression and alcohol problems among older adults [53••,54,55]. The use of alcohol and depression screening and interventions targeted to the characteristics of older adults moves the field toward providing best practice care to a vulnerable population.

## Acknowledgment

None of the authors has a possible conflict of interest, financial or otherwise.

## References and Recommended Reading

Papers of particular interest, published recently, have been highlighted as:

- • Of importance
- •• Of major importance


1. Gallo JJ, Lebowitz BD: **The epidemiology of common late-life mental disorders in the community: themes for the new century.** *Psychiatr Serv* 1999, **50:**1158–1166.
2. US Dept of Health and Human Services: Mental Health: *A Report of the Surgeon General—Executive Summary.* Rockville, MD: US Dept of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health; 1999.
3. **National Institute of Mental Health. Older adults: depression and suicide facts.** Available at: http://www.nimh.nih.gov/publicat/elderlydepsuicide.cfm. Accessed November 1, 2006.
4. Adams W, Barry KL, Fleming MF: **Screening for alcohol use in older primary care patients.** *JAMA* 1996, **279:**1964–1967.
5. Robins LN, Helzer JE, Weissman MM, et al.: **Lifetime prevalence of specific psychiatric disorders in three sites.** *Arch Gen Med* 1984, **41:**949–958.
6. Blow FC, Barry KL: **Advances in alcohol screening and brief intervention with older adults.** In *Advances in Medical Psychotherapy, 1999-2000,* vol 10. Edited by Lichtenberg PA. Dubuque, IA: Kendall Hunt; 1999:107–124.
7. Blow FC. *Substance Abuse Among Older Adults*. Rockville, MD: US Dept of Health and Human Services, Public Health Service, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment; 1998. Treatment Improvement Protocol (TIP) Series, No. 26.
8. Office of Applied Studies, SAMHSA: *Summary of findings from the 2002 National Survey on Drug Use and Health.* Rockville, MD: Substance Abuse and Mental Health Services Administration, US Dept of Health and Human Services; 2002.
9. • Oslin DW: **Late-life alcoholism: issues relevant to the geriatric psychiatrist.** *Am J Geriatr Psychiatry* 2004, **12:**571–583.

This article describes some of the special issues that geriatric psychiatrists need to understand in treating alcohol problems among older patients.

10. Callahan CM, Tierney WM: **Health services use and mortality among older primary care patients with alcoholism.** *J Am Geriatr Soc* 1995, **43:**1378–1383.
11. Barry KL, Blow FC, Walton MA, et al.: **Elder-specific brief alcohol intervention: 3-month outcomes [abstract].** *Alcohol Clin Exp Res* 1998, **22:**32A.
12. Joseph CL, Ganzini L, Atkinson R: **Screening for alcohol use disorders in the nursing home.** *J Am Geriatr Soc* 1995, **43:**368–373.
13. Oslin DW, Streim JE, Parmelee P, et al.: **Alcohol abuse: a source of reversible functional disability among residents of a VA nursing home.** *Int J Geriatr Psychiatry* 1997, **12:**825–832.
14. National Institute on Alcohol Abuse and Alcoholism: *Alcohol and Aging. Alcohol Alert.* vol 40. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism; 1998:1–5.
15. National Institute on Alcohol Abuse and Alcoholism: *Drinking in the United States: Main Findings from the 1992 National Longitudinal Alcohol Epidemiologic Survey (NLAES).* Rockville, MD: National Institute on Alcohol Abuse and Alcoholism; 1998. [NIH publication no. 99-3519.]
16. Onder G, Pedone C, Landi F, et al.: **Adverse drug reactions as cause of hospital admissions: results from the Italian Group of Pharmacoepidemiology in the Elderly (GIFA).** *J Am Geriatr Soc* 2002, **50:**1962–1968.
17. Bartels SJ, Liberto J: **Dual diagnosis in the elderly.** In *Substance Disorders Among Persons with Chronic Mental Illness*. Edited by Lehman AF, Dixon L. New York: Harwood Academic Publishers; 1995:139–157.

18. Barry KL, Oslin DW, Blow FC: *Alcohol Problems in Older Adults: Prevention and Management*. New York: Springer; 2001.
19. Vestal RE, McGuire EA, Tobin JD, et al.: **Aging and ethanol metabolism.** *Clin Pharmacol Ther* 1977, **21:**343–354.
20. Chermack ST, Blow FC, Hill EM, Mudd SA: **The relationship between alcohol symptoms and consumption among older drinkers.** *Alcohol Clin Exp Res* 1996, **20:**1153–1158.
21. Doll R, Peto R, Hall E, et al.: **Mortality in relation to consumption of alcohol: 13 years' observations on male British doctors.** *BMJ* 1994, **309:**911–918.
22. Boffetta P, Garfinkel L: **Alcohol drinking and mortality among men enrolled in an American Cancer Society prospective study.** *Epidemiology* 1990, **1:**342–348.
23. deLabry LO, Glynn RJ, Levenson MR, et al.: **Alcohol consumption and mortality in an American male population: recovering the U-shaped curve—findings from a normative aging study.** *J Stud Alcohol* 1992, **53:**25–32.
24. Broe GA, Creasey H, Jorm AF, et al.: **Health habits and risk of cognitive impairment and dementia.** *Aust N Z J Public Health* 1998, **22:**621–623.
25. Dufour MC, Archer L, Gordis E: **Alcohol and the elderly.** *Clin Geriatr Med* 1992, **8:**127–141.
26. Thun MJ, Peto R, Lopez AD, et al.: **Alcohol consumption and mortality among middle-aged and elderly US adults.** *N Engl J Med* 1997, **337:**1705–1714.
27. Conigliaro J, Lofgren RP, Hanusa BH: **Screening for problem drinking: impact on physician behavior and patient drinking habits.** *J Gen Intern Med* 1998, **13:**251–256.
28. Romanoski AJ, Folstein MF, Nestadt G, et al.: **The epidemiology of psychiatrist-ascertained depression and DSM-III depressive disorders. Results from the Eastern Baltimore Mental Health Survey Clinical Reappraisal.** *Psychol Med* 1992, **22:**629–655.
29. Alexopoulos GS, Meyers BS, Young RC, et al.: **"Vascular depression" hypothesis.** *Arch Gen Psychiatry* 1997, **54:**915–922.
30. Parmelee PA, Katz IR, Lawton MP: **Incidence of depression in long-term care settings.** *J Gerontol* 1992, **47:** M189–M196.
31. Horwath E, Johnson J, Klerman GL, Weissman MM: **Depressive symptoms as relative and attributable risk factors for first-onset major depression.** *Arch Gen Psychiatry* 1992, **49:**817–823.
32. Harman JS, Reynolds CF 3rd: **Removing the barriers to effective depression treatment in old age.** *J Am Geriatr Soc* 2000, **48:**1012–1013.
33. **NIH consensus conference. Diagnosis and treatment of depression in late life.** *JAMA* 1992, **268:**1018–1024.
34. **Centers for Disease Control and Prevention. Suicide deaths and rates per 100,000.** Available at**:** http://www.cdc.gov/ncipc/data/us9794/suic.htm. Accessed November 1, 2006.
35. Kraemer HC, Kazdin AE, Offord DR, et al.: **Coming to terms with the terms of risk.** *Arch Gen Psychiatry* 1997, **54:**337–343.
36. Conwell Y, Brent D: **Suicide and aging. I: Patterns of psychiatric diagnosis.** *Int Psychogeriatr* 1995, **7:**149–164.
37. Conwell Y, Duberstein PR, Cox C, et al.: **Relationships of age and axis I diagnoses in victims of completed suicide: a psychological autopsy study.** *Am J Psychiatry* 1996, **153:**1001–1008.
38. Grant BF, Harford TC: **Comorbidity between DSM-IV alcohol use disorders and major depression: results of a national survey.** *Drug Alcohol Depend* 1995, **39:**197–206.
39. Devanand DP: **Comorbid psychiatric disorders in late life depression.** *Biol Psychiatry* 2002, **52:**236–242.
40. Speer DC, Bates K: **Comorbid mental and substance disorders among older psychiatric patients.** *J Am Geriatr Soc* 1992, **40:**886–890.
41. Schuckit MA: **Genetic and clinical implications of alcoholism and affective disorder.** *Am J Psychiatry* 1986, **143:**140–147.
42. Blixen CE, McDougall GJ, Suen L: **Dual diagnosis in elders discharged from a psychiatric hospital.** *Int J Geriatr Psychiatry* 1997, **12:**307–313.
43. Blow FC, Cook CA, Booth BM, et al.: **Age-related psychiatric comorbidities and level of functioning in alcoholic veterans seeking outpatient treatment.** *Hosp Community Psychiatry* 1992, **43:**990–995.
44. McKenna C, Ross C: **Diagnostic conundrums in substance abusers with psychiatric symptoms: variables suggestive of dual diagnosis.** *Am J Drug Alcohol Abuse* 1994, **20:**397–412.
45. Atkinson R: **Depression, alcoholism and ageing: a brief review.** *Int J Geriatr Psychiatry* 1999, **14:**905–910.
46.•• Oslin DW: **Treatment of late-life depression complicated by alcohol dependence.** *Am J Geriatr Psychiatry* 2005, **13:**491–500.

This article showed the critical importance of addressing alcohol problems when treating older patients with depression. Depressed patients who discontinued their use of alcohol had better depression outcomes compared with those who continued to drink.

47. Waller SJ, Lyons JS, Costantini-Ferrando MF: **Impact of comorbid affective and alcohol use disorders on suicidal ideation and attempts.** *J Clin Psychol* 1999, **55:**585–595.
48. Cornelius JR, Salloum IM, Mezzich J, et al.: **Disproportionate suicidality in patients with comorbid major depression and alcoholism.** *Am J Psychiatry* 1995, **152:**358–364.
49. Korper SP, Council CL, eds: *Substance Use by Older Adults: Estimates of Future Impact on the Treatment System*. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies; 2002. DHHS Publication No. SMA 03-3763, Analytic Series A-21.
50. Grant BF: **Prevalence and correlates of alcohol use and DSM-IV alcohol dependence in the United States: results of the National Longitudinal Alcohol Epidemiologic Survey.** *J Stud Alcohol* 1997, **58:**464–473.
51. Cloninger RC: *Feeling Good: The Science of Well-Being*. New York: Oxford University Press; 2004:xxiii, 374.
52. D'Souza RF, Rodrigo A: **Spiritually augmented cognitive behavioral therapy.** *Australas Psychiatry* 2004, **12:**148–152.
53.•• Oslin DW, Grantham S, Coakley E, et al.: **PRISM-E: comparison of integrated care and enhanced specialty referral in managing at-risk alcohol use.** *Psychiatr Serv* 2006, **57:** 954–958.

Nondependent older drinkers have better outcomes when treated by primary care providers than by specialty mental health providers. This article demonstrates the importance of primary care integration to address at-risk drinking among older adults.

54. Oslin DW, Sayers S, Ross J, et al.: **Disease management for depression and at-risk drinking via telephone in an older population of veterans.** *Psychosom Med* 2003, **65:**931–937.
55. Oslin DW, Ross J, Sayers S, et al.: **Screening, assessment, and management of depression in VA primary care clinics. The Behavioral Health Laboratory.** *J Gen Intern Med* 2006, **21:**46–50.