The Merrill Counseling Series

6TH EDITION

SUBSTANCE USE COUNSELING

Theory and Practice

PATRICIA STEVENS | ROBERT L. SMITH

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This book is for all the dedicated students and practitioners who strive to make a difference in the lives of their clients and in the quality of life for all. May they continue to find this text to be helpful for them in their personal journey and in their professional career.

—Patricia Stevens

This text is dedicated to the many brave individuals and family members experiencing problems and challenges related to addictions, and to the many professionals devoted to working and conducting research in the field of addictions.

—Robert Smith

ABOUT THE AUTHORS

Dr. Patricia W. Stevens is a retired Counselor Educator currently in clinical private practice in Louisville, CO. She trains student counselors through online teaching. Dr. Stevens also consults with universities in program development and accreditation (CACREP, NCATE/CAEP).

Dr. Stevens is a member of ACA, AAMFT, and served on the CACREP board for eight years. She has held multiple leadership positions in ACA and its divisions, including President of the IAMFC, Board-Member-at-Large of AACD, and Co-Chair of the Professional Standards Committee. Dr. Stevens has also served on several editorial boards of ACA and its divisions. Though retired, she continues to be active in the profession and her clinical work.

Through the years she has delivered more than 70 presentations at the local, state, regional, national, and international levels in the areas of substance abuse, gender implications in counseling, challenges of aging, and ethical/ legal issues in counseling. In the counseling field, she has published more than 50 articles, chapters, and books. Dr. Stevens has prepared and taught more than 26 different courses in the counseling curriculum.

Dr. Stevens is a Fulbright Scholar and works with the Red Cross as a Mental Health Disaster Relief volunteer. She volunteers at her local Red Cross and her local senior center.

Robert L. Smith, Ph.D., FPPR, is Professor & Chair of the Counseling and Educational Psychology Department, as well as the Doctoral Program Coordinator at Texas A&M University–Corpus Christi. He completed his Ph.D. at the University of Michigan. As a licensed psychologist, he has worked as a private practitioner in addition to serving as the chair of three counselor education programs. He is the author of several books and more than 80 professional articles. He serves as the Executive Director and co-founder of the International Association of Marriage and Family Counselors. He is also the founder of the National Credentialing Academy for Family Therapists. His research interests include the efficacy of treatment modalities in individual psychotherapy, family therapy, and substance abuse counseling. He is a Diplomate-Fellow in Psychopharmacology with the International College of Prescribing Psychologists and consultant with the Substance Abuse Program in the U. S. Navy. Dr. Smith as an international lecturer is currently involved in the development and implementation of graduate programs in counseling and psychology in Latin America.

ABOUT THE CONTRIBUTORS

Dr. Robert Dobmeier is an associate professor and Coordinator of the Mental Health Counseling Program at the College of Brockport. Dr. Dobmeier has prior work experience as a mental health counselor, supervisor, and director. He has worked for several Office of Mental Health and Office of Alcoholism and Substance Abuse Services licensed agencies in western New York. Dr. Dobmeier is a Licensed Mental Health Counselor and is a member of the New York Mental Health Counseling Association, and former Co-President of the New York Association of Counselor Education and Supervision. He has advocated for recognition of diagnosis in the scope of practice for mental health counselors in New York State. As President of the Association for Adult Development and Aging, and Chair of their Public Policy and Legislation Committee, he has advocated for Medicare reimbursement for the services of professional counselors. He is also a member of the American Counseling Association, Association for Counselor Education and Supervision, and Association for Spiritual, Ethical, and Religious Values in Counseling. Dr. Dobmeier is a founding member of ACA-NY. He is also a member of the Greater Rochester Chapter of NYMHCA and the North Atlantic Regional Association for Counselor Education and Supervision. Dr. Dobmeier is a member of Chi Sigma Iota and of Nu Chapter. Among the courses Dr. Dobmeier enjoys teaching are several mental health courses, most recently Leadership and Advocacy, Research and Program Evaluation, Measurement and Evaluation, and Spirituality in Counseling.

Dr. Claudette Brown-Smythe is a graduate of Syracuse University, where she completed a doctor of philosophy degree in counseling and counselor education, and a dual masters' degree in rehabilitation and community counseling. Prior to that, she attended the University of the West Indies in Jamaica, where she completed her Bachelor of Science and Master's of Social Work with an emphasis in group and community development. In Jamaica, she worked as a school counselor and later as a college professor training and supervising school counselors. As a social worker, she worked in rural and inner-city communities in Jamaica, educating and doing advocacy around issues of child abuse and child poverty, and later worked on these same issues with the aged in the Caribbean. Dr. Brown-Smythe has worked in various fields in counseling: school counseling, college counseling, and mental health and rehabilitation counseling. With more than 15 years of experience in training and supervision, her current employment is at The College at Brockport State University of New York as a Visiting Assistant Professor in the counselor education department and coordinator of the certificate in advanced studies. She is a Certified Rehabilitation Counselor (CRC), a Nationally Certified Counselor, (NCC), and an Accredited Clinical Supervisor (ACS). Her professional and research interests include addressing diversity issues in counseling and supervision; exploring loss and grief in counseling; supervision in counseling; spirituality, wellness, and well-being; counseling older adults; and training paraprofessionals as mental health and rehabilitation facilitators. Dr. Brown-Smythe is a recipient of the NBCC inaugural Minority Fellowship.

Linda L. Chamberlain, Psy.D., is a licensed psychologist and Coordinator of the Center for Addiction and Substance Abuse (CASA) at the Counseling Center for Human Development, the University of South Florida in Tampa, Florida. She has worked in the addictions field since 1980 as both a clinician and educator with a focus on individual and family recovery from substance abuse and the treatment of problem gambling. Dr. Chamberlain coauthored a book on the treatment of problem gambling entitled *Best Possible Odds* and has written numerous articles and contributed to several books on the dynamics and treatment of addictions and family

therapy. Dr. Chamberlain has presented workshops and counselor training through the American Counseling Association and the American Psychological Association, and has been an invited speaker at local, national, and international conferences on addictions.

Ashby Dodge is a licensed clinical social worker with a private practice in New York City that focuses on couples/family therapy, young professionals, LGBTQ issues, sexual assault survivors, and substance abuse. Ashby is currently Clinical Director at The Trevor Project, the nation's leading organization providing crisis intervention and suicide prevention services to LGBTQ youth, ages 13 to 24. Ashby's clinical style is largely strengths-based, helping people find positive and practical solutions to any number of life stressors and problematic relationships.

Dr. Kristina DePue is an Assistant Professor at the University of Florida (UF). She received her doctoral degree in Counselor Education from the University of Central Florida. Before attending UCF, Dr. DePue graduated from Vanderbilt University for both her master's and bachelor's degrees. Helping individuals struggling with addiction has been a personal mission of Dr. DePue's for more than 11 years. She has worked in many roles in treatment settings and was part of Vanderbilt's initiation of the Collegiate Recovery Community (CRC). Dr. DePue's research is focused on substance use in the collegiate population, specifically focusing on student-athletes and mild traumatic brain injury (mTBI), diagnosis, and self-harm. Additional research endeavors involve the trajectory of addiction and recovery, highlighting the relationship between the bottoming-out experience, the turning point, and early recovery. Dr. DePue serves on the editorial boards for the *Journal of Addictions and Offender Counseling* and for the *Annual Review of Best Practices in Addictions and Offender Counseling*. Dr. DePue is actively involved in both the American Counseling Association (ACA) and the International Association of Addiction and Offender Counselors (IAAOC) and has served as the IAAOC Collegiate Addiction Committee Chair for the past two years. She is also on the Board of Directors for UF's CRC. Currently, Dr. DePue is working on funding projects that focus on mTBI and substance use in college athletes, statistical modeling of addiction trajectories, examining the effectiveness of CRCs nationwide, and using technology to assist in harm reduction for college drinkers.

Leigh Falls Holman, Ph.D., LPC-MHSP-S, RPTS, NCC, AMHCA Diplomate and CMHC in Substance Abuse and Co-Occurring Disorders, Trauma Counseling, and Child and Adolescent Counseling, teaches at The University of Memphis. She served as President of the International Association of Addiction and Offender Counselors from 2015 to 2016 and was previously recognized by IAAOC as an Outstanding Counseling Professional in 2013 for her contributions to the profession. Dr. Holman has published and presented at professional conferences on addiction and offender topics and has been a clinician for 20 years.

Melanie M. Iarussi is an assistant professor in the Counselor Education Programs at Auburn University. She earned her Ph.D. in Counselor Education and Supervision from Kent State University. Her clinical background is in substance abuse counseling, college counseling, and private practice. She is a Licensed Professional Counselor and a Certified Substance Abuse Counselor. She is also a member of the Motivational Interviewing Network of Trainers. Melanie's research interests include counselor training in substance use and addiction counseling, college student substance use and recovery, and applications of motivational interviewing.

Davina A. Moss-King, Ph.D., CRC, NCC, CASAC has been a substance abuse counselor for 25 years. Dr. Moss-King is a Certified Rehabilitation Counselor and a National Certified

Counselor, as well as a Credentialed Alcohol and Substance Abuse counselor in New York state. Dr. Moss-King received her doctorate in Counselor Education with honors in 2005 from the State University of New York at Buffalo. Her world-acclaimed dissertation "Unresolved Grief and Loss Issues Related to Substance Abuse" was published as a book, *Unresolved Grief and Loss Issues Related to Heroin Recovery*, in 2009. Dr. Moss-King's research interest is opioid disorders and neonatal abstinence syndrome, which has evolved to writing an internationally accredited online course, "Opioid Dependence during Pregnancy" (2015), along with an article entitled "Neonatal Abstinence Syndrome—the Negative Effects on Our Future" (2015). Dr. Moss-King is an adjunct professor at Canisius College's Counselor Education and Human Services Department, Buffalo, NY. Dr. Moss-King is the founder and president of Positive Direction and Associates, Inc., a consulting company that provides educational seminars focusing on opioid use disorders, women's health, and rebuilding families. Dr. Moss-King is a member of the American Psychological Association and the National Association of Neonatal Therapists.

Summer M. Reiner is an Associate Professor in the Department of Counselor Education, The College at Brockport, State University of New York in Brockport, NY. She served as president of the Association for Adult Development and Aging (AADA), North Atlantic Region Association for Counselor Education and Supervision (NARACES), and the American Counseling Association of New York (ACA-NY). She served as chair of the American Counseling Association North Atlantic Region (ACA-NAR). Dr. Reiner was most recently elected president of the Association for Counselor Education and Supervision (ACES) and to the American Counseling Association Governing Council. She is a National Certified Counselor (NCC), an Approved Clinical Supervisor (ACS), a licensed mental health counselor (LMHC–NY), and a permanently certified school counselor in New York. She teaches courses in career, school counseling, practicum, internship, and human development and provides clinical supervision to students.

Dr. Reiner has authored journal articles on spirituality issues, school counseling issues, and professional counselor identity. In 2010, she received a research grant from the Council for Accreditation of Counseling and Related Educational Programs (CACREP). The research grant resulted in a publication on Professional Counselor Identity and was recognized as one of the top cited articles in the *Journal of Counseling and Development* during 2013. She also has a book chapter in a process addictions text on work addiction.

Dr. Daniel T. Sciarra is Professor of Counselor Education and Director of Counseling programs at Hofstra University. Fluently bilingual in Spanish, he maintains a clinical practice with Latino children, adolescents, and families through the Child Guidance Center of Southern Connecticut. In addition to numerous articles and book chapters on the subject of multicultural counseling, Dr. Sciarra is the author of three books, *Multiculturalism in Counseling* (Peacock, 1999), *School Counseling: Foundations and Contemporary Issues* (Brooks/Cole, 2004), and *Children and Adolescents with Emotional and Behavioral Disorders* (Allyn & Bacon, 2010). His fourth book, *Teaching Difficult Students: Interventions That Work,* will be released in July of 2016. A former bilingual school counselor with the New York City Board of Education, Dr. Sciarra holds a doctorate in Counseling Psychology from Fordham University, a master's degree in counseling from Boston College, and a bachelor's degree in English education from Fairfield University. He is a licensed psychologist, licensed mental health counselor (LMHC), and a national certified counselor (NCC). His research interests

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Dr. Genevieve Weber is an associate professor in the Department of Counseling and Mental Health Professions, School of Health and Human Services at Hofstra University. She is a Licensed Mental Health Counselor in the state of New York, with a specialization in Substance Abuse Counseling. Dr. Weber teaches a variety of courses related to the training of professional counselors, including group counseling, multicultural counseling, counseling the LGBTQ client, psychopathology, and psychopharmacology and treatment planning. She has more than 10 years of experience working in community agencies, where she provides counseling to diverse clients with both substance abuse and mental health concerns. Dr. Weber is a Senior Research Associate with Rankin and Associates Consulting, where she works with institutions to maximize equity through assessment, planning, and implementation of campus climate intervention strategies. In her research and professional presentations, Dr. Weber focuses on the impact of homophobia and heterosexism on the lives of LGBTQ people.

PREFACE

Welcome to the sixth edition of our book. The authors are both proud and delighted to bring you this new edition in a new format with significantly updated and new content. This edition is different in many ways. It has been significantly updated to reflect the changes in the DSM-5 related to the criteria for assessment and diagnosis of substance use disorders. These changes required a complete revision of all terminology within the book to coordinate with the new diagnostic criteria. This edition also addresses the changing face of substance use in our country—from the different demographics of substance users to the substances themselves and how they are used. New effective treatment assessments, methods, and settings are included to assure the student's knowledge of current practice in the field.

There are drugs available and regularly used today that were not even known when we wrote the first edition of this book, and the field of substance use counseling has shifted in response to these changes. Now there are designer drugs—synthetic drugs. Marijuana has been legalized in some states for both medical and recreational use. Synthesized marijuana is now being produced, and it is lethal. Prescription drug use among adolescents has skyrocketed. Meth production is at a pandemic level. Administration of a drug to another person without their consent is becoming more common. In this book, new information has been added and updated information and research references have been included to address these facts. With the addition of gambling as an addiction in the DSM-5 and the prevalence of other dysfunctional behaviors in today's society, the authors felt it was necessary to educate students and clinicians on these behaviors so a chapter has been included on behavioral addictions. New chapter cases in each chapter provide the student with additional critical thinking exercises related to that chapter topic. At the end of Chapters 1 through 13, MyCounselingLab activities allow students to see key concepts demonstrated through video clips, practice what they learn, test their understanding, and receive feedback to guide their learning and ensure that they master key learning outcomes and professional standards.

In the first edition we stated that our goal was to develop a text that was helpful for the general clinician as well as for students in beginning substance use courses, and this goal remains the same. The book is intended to be an adjunct to, not a replacement for, counseling theory and techniques, public policy, and school-specific books and coursework. The text provides you with information specific to the substance use field that must then be integrated with your other counseling knowledge.

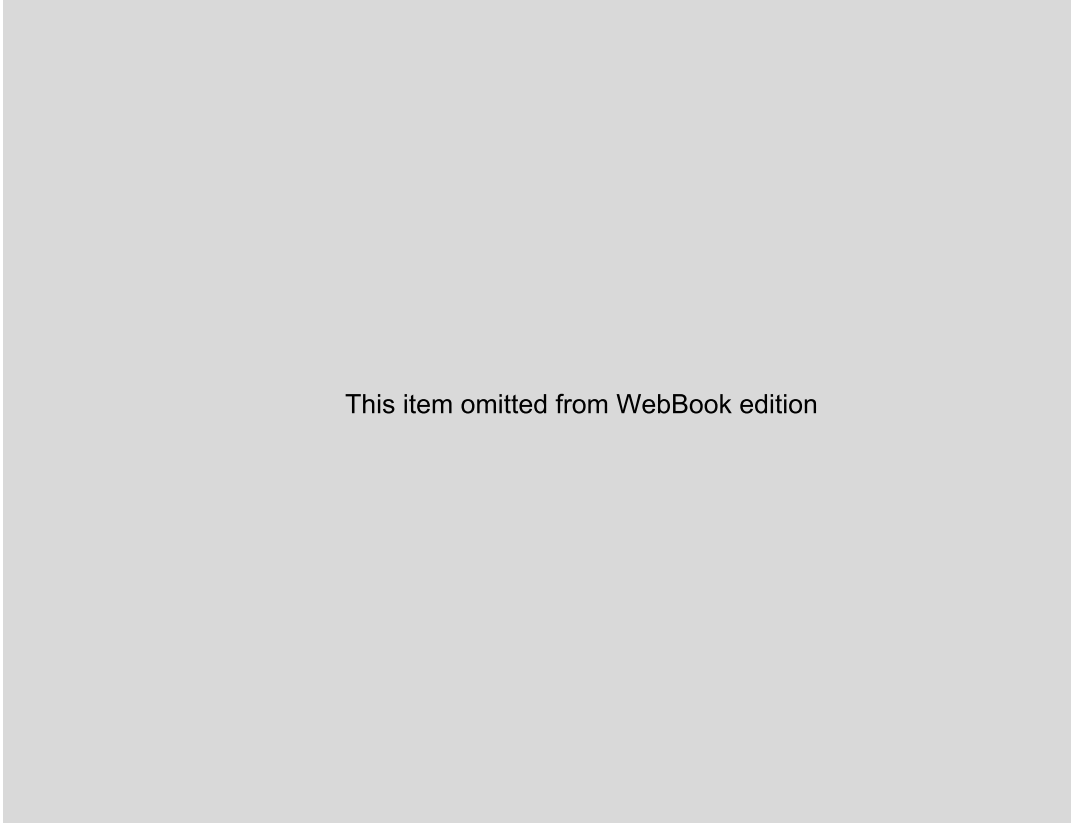
As we originally intended, the book is designed to take the reader/student through the process of working with substance use clients and/or behavioral addiction clients from client recognition of need for treatment (in whatever way that is recognized by the client) through the recovery process and beyond. Chapters build on each other as they take you through the process, but each can be used independently for resources or information. Although it is impossible to show you skill sets with a real person, the authors have developed book case studies that are used across the chapters (and therefore represent the process of a client). These case studies provide practical application of the information in each chapter. In addition, each chapter has a case study that specifically addresses the information in that chapter.

We hope that you find the text enjoyable, informative, and a practical read. If so, we have met our goal.

NEW TO THIS EDITION

This new edition has been thoroughly revised. Specific changes include, but are not limited to:

- a new chapter on behavioral addictions
- updated use and cost of use statistics in Chapter 1
- new information in Chapter 2 on ethical issues concerning the Patient Protection and Affordable Care Act and the Health Insurance Portability Accountability Act
- added Integrated Approach as a new theoretical model in Chapter 4
- revised Chapter 6 with new assessment and diagnostic information and information on the Mental Health and Substance Abuse Parity Act and the Affordable Care Act on substance use treatment
- in Chapter 7, the Addiction Society of America diagnostic and treatment criteria and new pharmacotherapy information
- in Chapter 9, re-inclusion of Claudia Black's concept of family roles
- in Chapter 11, substantial changes to the LGBTQ section and new section on counseling military and immigrants with substance use issues
- in Chapter 12, a new section on the socioeconomic impact of substance use
- new terminology to match the DSM-5 criteria for assessment and diagnosis
- ethical codes updated to the latest revision
- updated research references and statistics



ACKNOWLEDGMENTS

We wish to thank, first and foremost, the professors who choose this text and the students who purchase the book, some of whom have let us know how valuable the book has been for them. We appreciate the time and energy the reviewers invested in the reviews for this edition. Their insightful comments assist us in publishing a better text.

Thanks to Kevin Davis for his continued belief in this book. Anne McAlpine has been our go-to person for all manner of issues. She has been accessible and knowledgeable each time we have asked. Thanks, Annie! Pam Bennett, our Project Manager, has been exceptionally patient throughout this process. She has kept us on schedule during some chaotic times. We all thank her for her time and energy.

We wish to thank our contributors. They have all worked diligently to provide a state-of-the-art textbook for training students and clinicians. This edition provided new challenges that they all met with kindness, patience, and professionalism. New contributors have added knowledge and skills to the text and a new perspective that aligns with the changing field. We also wish to thank the reviewers for this edition, who provided us with valuable input for revising this edition: Jeff Blancett, University of Memphis & Victory University; Victor J. Manzon, Western Michigan University; and Martin L. Michelson, University of Illinois at Springfield.

And, again and again, we are grateful to our family and friends who continue to be supportive each time we revise this text.

BRIEF CONTENTS

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CHAPTER 1

Introduction to Substance Use Disorder Counseling

Patricia Stevens, Ph.D.

Alcohol, tobacco, marijuana, prescription drugs, illegal drugs—all are used daily by many in our world today, sometimes with dire consequences. Drugs are used for celebrations, for mourning, for religious rituals, for pain relief, for stress relief, and recreationally. We hear about them daily on the radio, on television, and on the Internet. On the Internet, we can find information about what each drug's composition is as well as how to make many of them ourselves.

Children are beginning to experiment and use at an earlier age, and many of our elders are using a variety of substances, both prescribed and not. Young and old, people use drugs to forget, to feel better (physically and mentally) or not feel at all, to be friendly, to disinhibit, and because of peer pressure. Tobacco, alcohol, and marijuana (in some states) are legal drugs used with social sanction and are easily available. Even if you individually do not use a drug (and this includes alcohol and tobacco), you probably have a user in your family or friend group, or know someone who uses drugs inappropriately.

Consequences of the use of legalized substances (for purposes of this discussion I include alcohol, tobacco, marijuana, and prescription drugs) and illegal substances continue to be disturbing. Many do not understand the far-reaching effects of use. Statistically, for each person who misuses a substance, four or five other people are somehow personally or professionally affected by this use—from minimally to severely—and societal costs reach into the multiple millions. For example, "the average cost for 1 full year of methadone maintenance treatment is approximately $4,700 per patient, whereas 1 full year of imprisonment costs approximately $24,000 per person, usually paid from tax funds" (National Institute on Drug Abuse [NIDA], 2012).

Until the mid-1990s, the tobacco industry denied that there were any physical consequences or addiction from tobacco use even as people were dying from lung cancer. A $145 billion verdict in a 2000 class action suit led by Dr. Howard A. Engle, a Miami Beach pediatrician who smoked and who eventually died of chronic obstructive pulmonary disease, led the way to multiple suits against the tobacco companies; they tried to settle, paying out $10 billion per year in perpetuity. They also placed in the public domain more than 35 million pages of internal documents on the effects of smoking, which included lung cancer and addiction. In 2014, a Florida woman was awarded $23.6 billion in a suit against

R. J. Reynolds Tobacco Company that was filed in 1996, when her husband died at age 36 (Sifferlin, 2014). And while smoking has decreased in the past 10 years, "in 2013, young adults aged 18 to 25 had the highest rate of current use of a tobacco product (37.0 percent), followed by adults aged 26 or older (25.7 percent), then by youths aged 12 to 17 (7.8 percent). Young adults also had the highest rates of current use of the specific tobacco products. Among young adults, the rates of past month use in 2013 were 30.6 percent for cigarettes, 10.0 percent for cigars, 5.8 percent for smokeless tobacco, and 2.2 percent for pipe tobacco" (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014, p. 47).

Other statistics that speak to the use of tobacco and its relationship to other drug use include:

- In 2013, the prevalence of current use of a tobacco product was 40.1% for American Indians or Alaska Natives, 31.2% for persons reporting two or more races, 27.7% for Whites, 27.1% for Blacks, 25.8% for Native Hawaiians or Other Pacific Islanders, 18.8% for Hispanics, and 10.1% for Asians
- Among adults aged 18 or older, current cigarette use in 2013 was reported by 33.6% of those who had not completed high school, 27.7% of high school graduates with no further education, 25.5% of persons with some college but no degree, and 11.2% of college graduates.
- The annual average rate of past-month cigarette use in 2012 and 2013 among women aged 15 to 44 who were pregnant was 15.4%.
- In 2013, past-month alcohol use was reported by 65.2% of current cigarette smokers compared with 48.7% of those who did not use cigarettes in the past month.
- Among persons aged 12 or older, 24.1% of past-month cigarette smokers reported current use of an illicit drug compared with 5.4% of persons who were not current cigarette smokers.

Alcohol, which has been legal in the United States since the 1933 repeal of Prohibition, has multiple consequences—including but not limited to financial loss of work production, increased medical costs for use-related issues, increased intimate partner violence and incest, increased accidents (in all domains), and higher individual risks for a multitude of physical diseases. (SAMHSA, 2014)

According to the SAMHSA 2013 National Survey on Drug Use and Health (SAMHSA, 2014):

- Slightly more than half (52.2%) of Americans aged 12 or older reported being current drinkers of alcohol in the 2013 survey, which was similar to the rate in 2012 (52.1%). This translates to an estimated 136.9 million current drinkers in 2013.
- The rate of current alcohol use among youths aged 12 to 17 was 11.6% in 2013.
- An estimated 8.7 million underage persons (aged 12 to 20) were current drinkers in 2013, including 5.4 million binge drinkers and 1.4 million heavy drinkers. In 2013, an estimated 10.9% of persons aged 12 or older had driven under the influence of alcohol at least once in the past year.
- 1.4 million received treatment for the use of alcohol but not illicit drugs.

- In 2013, 2.5 million persons aged 12 or older reported receiving treatment for alcohol use during their most recent treatment in the past year, 845,000 persons received treatment for marijuana use, and 746,000 persons received treatment for pain relievers (pp. 89, 90, 104).

Further, someone dies in an alcohol-related automobile crash every 51 minutes in the United States (National Highway Traffic Safety Administration, 2013); the annual cost of alcohol-related crashes is $59 billion (Blincoe, Miller, Zaloshnja, & Lawrence, 2010). In 2006, the World Health organization reported that 55% of people involved in intimate partner violence (IPV) believed that their partner/perpetrator had been drinking alcohol before the incident. Although research continues to be complicated on this issue, alcohol use appears to be correlated with IPV, if not cause and effect. Diseases whose risk factors rise with the use of alcohol include human immunodeficiency virus (HIV), hepatitis, and other infectious diseases; cardiovascular complications; respiratory, gastrointestinal, and musculoskeletal effects; kidney and liver damage; neurological and mental health issues; hormonal issues; cancer; and pre- and postnatal complications.

The legalization of marijuana is a recent phenomenon, and studies to document what, if any, effect legalization might have on individual use are in process. SAMHSA's 2013 survey still categorizes marijuana as an illicit drug, as it is on the federal level. Statistics on 2013 use show:

> In 2013, marijuana was the most commonly used illicit drug, with 19.8 million current (past-month) users. It was used by 80.6% of current illicit drug users
>
> - In 2013, there were 2.4 million persons aged 12 or older who had used marijuana for the first time within the past 12 months; this averages to about 6,600 new users each day. The 2013 estimate was similar to the estimates in 2008 through 2012 (ranging from 2.2 million to 2.6 million), but was higher than the estimates from 2002 through 2007 (ranging from 2.0 million to 2.2 million).
> - In 2013, among persons aged 12 or older, an estimated 1.4 million first-time past-year marijuana users had initiated use before the age of 18. This estimate was similar to the corresponding estimate in 2012. The estimated 1.4 million persons in 2013 who initiated use before the age of 18 represented the majority (56.6%) of the 2.4 million recent marijuana initiates.

In 2012, concentrations of tetrahydrocannabinol (THC), the active ingredient in marijuana, averaged close to 15%, compared to around 4% in the 1980s. This higher concentration creates problems for new and regular users since many times they are not aware of what the concentration may be in each batch.

Marijuana affects the brain areas that influence pleasure, memory, thinking, concentration, sensory and time perception, and coordinated movement. A large long-term study (Meier et al., 2012) showed that people who began smoking marijuana heavily in their teens had a significant decline in their neuropsychological functioning well into adulthood.

Marijuana smoke is an irritant to the lungs causing the same problems that tobacco users experience such as daily cough and phlegm production, more frequent acute chest illness, and a heightened risk of lung infections. Marijuana also raises heart rate by 20-100% shortly after

smoking; this effect can last up to 3 hours. NIDA (2014a) reports on a study that estimated that marijuana users have a 4.8-fold increase in the risk of heart attack in the first hour after smoking the drug.

NIDA (2014a) further reported that chronic marijuana use has been linked to mental illness. High doses of marijuana can produce a temporary psychotic reaction in some users and may worsen the course of illness in patients with schizophrenia. Associations have also been found between marijuana use and other mental health problems, such as depression, anxiety, suicidal thoughts among adolescents, and personality disturbances, including a lack of motivation to engage in typically rewarding activities.

The use of prescription drugs for medical misuse or nonmedical purposes is a growing problem, particularly among our youth and elderly populations. For purposes of this discussion we will include the nonmedical use of prescription-type pain relievers, tranquilizers, stimulants, and sedatives. The National Survey of Drug Use and Health reports combine the four prescription-type drug groups into a category referred to as "psychotherapeutics." (SAMHSA, 2014).

These include, but are not limited to:

Opioids

- Fentanyl (Duragesic)
- Hydrocodone (Vicodin)
- Oxycodone (OxyContin)
- Oxymorphone (Opana)
- Propoxyphene (Darvon)
- Hydromorphone (Dilaudid)
- Meperidine (Demerol)
- Diphenoxylate (Lomotil)

Central nervous system depressants

- Pentobarbital sodium (Nembutal)
- Diazepam (Valium)
- Alprazolam (Xanax)

Stimulants

- Dextroamphetamine (Dexedrine)
- Methylphenidate (Ritalin and Concerta)
- Amphetamines (Adderall)

The following statistics on persons aged 12 and older provide a sense of the scope of the problem:

- 4.5 million were using nonmedical pain relievers in 2013 (492,000 were using OxyContin).
- 1.7 million were using nonmedical tranquilizers.
- 1.4 million were using nonmedical stimulants (NIDA, 2014a).

Substance use among the elderly is relatively common but often is undetected or ignored by health and social workers. Psychosocial and health factors related to the aging process are the major contributors to alcoholism and other drug abuse. Although there is much less research

regarding elderly prescription nonmedical use or misuse, Medicare's drug program, known as Part D, now covers about 38 million elderly and disabled people and pays for more than one in four prescriptions dispensed in this country.

In 2012, the most recent year for which data is available, Medicare covered nearly 27 million prescriptions for powerful narcotic painkillers and stimulants with the highest potential for abuse (Centers for Medicare & Medicaid Services, 2015). Prescription drug abuse is present in 12% to 15% of elderly individuals who seek medical attention. Of the current population, 83% of older adults, people age 60 and over, take prescription drugs. Older adult women take an average of five prescription drugs at a time, for longer periods of time, than men. And studies show that half of those drugs are potentially addictive substances, such as sedatives, making older women more susceptible to potential abuse issues (Basca, 2008).

Psychoactive medications with abuse potential are used by at least 1 in 4 older adults, and such use is likely to grow as the population ages. It is estimated that up to 11% of older women misuse prescription drugs and that nonmedical use of prescription drugs among all adults aged 50 years or older will increase to 2.7 million by the year 2020 (Simoni-Wastil & Yang, 2006).

Culbertson and Ziska (2008) discuss the lack of screening instrument validity for the elderly populations, even though the elderly use 25% of all prescription drugs. "The prevalence of abuse may be as high as 11% with female gender, social isolation, depression, and history of substance abuse increasing risk" (p. 22).

Much of the foregoing data was collected by the Substance Abuse and Mental Health Services Administration, which is part of the Department of Health and Human Services, one of the premier research organizations in the world. Some data was collected by other national associations and by peer-reviewed published articles. And yet, we still must ask questions about research in the field, due to the very nature of the field. For example, how many of the "current users" meet the criteria for substance use disorder [SUD](American Psychiatric Association, 2013)? How many of them are recreational users? How do we objectively define recreational use? How many of them are physiologically or psychologically attached to the drug? Does this difference in definition lead to problems when comparing data collected? Does self-report affect data collection? Another problem is an outgrowth of the first: the question of how to collect data. Not only do definitions differ, but also substance use may lend itself to isolation and minimization of the facts about the problem.

These issues leave us without a clear idea of the actual number of recreational users and those with more serious problems. In the United States we have waged a "war on drugs" for over a century. In spite of the billions of dollars spent on these efforts in everything from media campaigns to criminal enforcement in an effort to eliminate drug use, virtually every drug that has ever been discovered is available to substance users in the United States, no matter their age or location (Doweiko, 2013).

SOCIETAL COSTS OF SUBSTANCE USE DISORDERS

The impact of use on the quality of life of the individual user and of family, neighbors, and friends cannot be estimated. What we can estimate is the objective costs to society, to the work force, and to medical care. When these economic valuation studies endeavor to incorporate such quality-of-life impacts and costs, the resulting cost, though estimates, are typically several times greater than the objective criteria costs (See Figure 1.1).

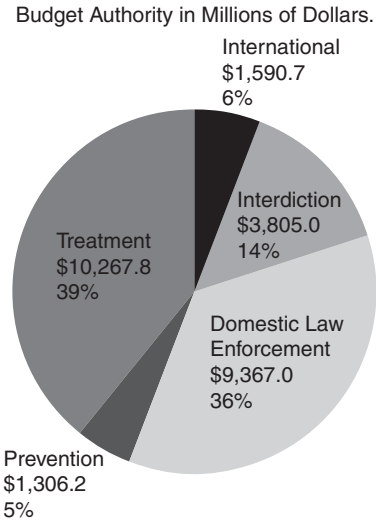

FIGURE 1.1 Cost of Substance Use in Law enforcement.
Surgeon General's, Report, 2004: ONDCP, 2004: Harvard 2000 NIDA
Source: "National Drug Control Budget: FY 2016 Funding Highlights" (Washington, DC: Executive Office of the President, Office of National Drug Control Policy), February 2015, Table 3, p. 18.
http://www.whitehouse.gov///sites/default/files/ondcp/press-releases/ond

Estimated Economic Cost to Society Due to Substance Abuse and Addiction:

Illegal drugs:	$181 billion/year
Alcohol:	$185 billion/year
Tobacco:	$193 billion/year
Total:	$559 billion/year

The total costs of drug abuse and addiction due to use of tobacco, alcohol and illegal drugs are estimated at $524 billion a year. Illicit drug use alone accounts for $181 billion in health care, productivity loss, crime, incarceration and drug enforcement.

FIGURE 1.2 Estimated Economic Cost of Substance Abuse and Addiction to Society.

For fiscal year (FY) 2016, a total of $27.6 billion was requested by the president to support 2015 National Drug Control Strategy efforts to reduce drug use and its consequences in the United States. This represents an increase of more than $1.2 billion (4.7%) over the enacted FY 2015 level of $26.3 billion (National Drug Control Budget, 2015, p. 2). This budget provides funds for public treatment facilities, prevention, and so forth.

The estimated total cost of drug use in the United States is $559,000,000,000 (559 billion) (NIDA, 2014c), as shown in Figure 1.2.

The National Drug Intelligence Center includes more modalities in their health cost and estimates. These include the following (reported in thousands of dollars): speciality treatment costs (*$3,723,338*), hospital and emergency department costs for nonhomicide cases (*$5,684,248*),

TABLE 1.1 Admissions to Publicly Licensed Treatment Facilities, by Primary Substance, CY2007-CY2011

	2007	2008	2009	2010	2011
Cacaine	250,761	230,568	186,994	152,404	143,827
Heroin	261,951	280,692	285,983	264,277	278,481
Marijuana	307,053	347,755	362,335	346,268	333,578
Methamphetamine	145,936	127,137	116,793	115,022	110,471
Non-Heroin Opiates/Synthetic*	98,909	122,633	143,404	163,444	186,986

Source: Treatment Episode Data Set (TEDS) 2004 - 2014. Published by Rockville, MD: Substance Abuse and Mental Health Services Administration, 2016.
*These drugs include codeine, hydrocodone, hydromorphone, meperidine, morphine, opium, oxycodone, pentazocine, propoxyphene, tramadol, and any other drug with morphine-like effects. Non presecription use of methadone is not included.
Note: Tennessee included heroin admissions in the "other opiates" category through June 2009. In this report, Tennessee's 2009 heroin admissions are still included in the other opiates category since there is less than a full year of disaggregated heroin data.

TABLE 1.2 Estimated Number of Emergency Department Visits Involving Illicit Drugs, CY2007-CY2011

	2007	2008	2009	2010	2011
Cocaine	553,535	482,188	422,902	488,101	505,224
Heroin	188,162	200,666	213,118	224,706	258,482
Marijuana	308,407	374,177	376,468	460,943	455,636
Methamphetamine	67,954	66,308	64,117	94,929	102,961
MDMA	12,751	17,888	22,847	21,836	22,498
CPD Painkillers	94,448	124,020	146,377	179,787	170,939

Source: Substance Abuse & Mental Health Services Administration (SAMHSA). Published by Substance Abuse & Mental Health Services Administration (SAMHSA).

hospital and emergency department costs for homicide cases (*$12,938*), insurance administration costs (*$544*), and other health costs (*$1,995,164*). These subtotal *$11,416,232*" (p. 3). Tables 1.1 and 1.2 break down some of these costs further.

Productivity

"Productivity includes seven components [costs reported in thousands]: labor participation costs (*$49,237,777*), specialty treatment costs for services provided at the state level (*$2,828,207*), specialty treatment costs for services provided at the federal level (*$44,830*), hospitalization costs (*$287,260*), incarceration costs (*$48,121,949*), premature mortality costs (no homicide: *$16,005,008*), and premature mortality costs (homicide: *$3,778,973*). These subtotal *$120,304,004*" (National Drug Intelligence Center, 2011, p. ix) (See Figure 1.3).

In addition to those just listed, multitudes of other costs are associated with SUD. These include the losses to society from premature deaths and fetal alcohol syndrome; social welfare administration costs, and property losses from substance-related motor vehicle crashes; and costs of related diseases (hepatitis C, HIV/acquired immunodeficiency syndrome [AIDS], cirrhosis of the liver, lung cancer, etc.).

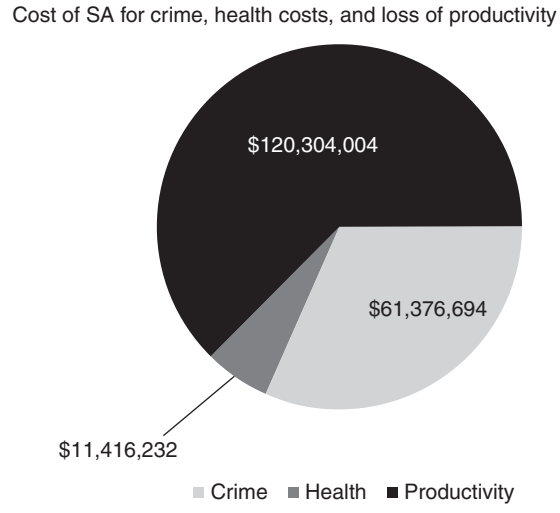

FIGURE 1.3 Cost of Substance Use for Crime, Health Costs, and Loss of Productivity.

SUBSTANCE-RELATED DISEASES

Although, as mentioned earlier, there are many diseases that may be considered related to substance use, there are three that should be highlighted here.

Hepatitis

Although hepatitis takes multiple forms, we will discuss only two here. Both hepatitis B (HBV) and hepatitis C (HCV) are liver-damaging viruses that are spread through exposure to contaminated blood and body fluids. Hepatitis B is the most common cause of liver disease in the world. HBV is blood-borne and can be transmitted through any sharing of blood. HBV is also found in the semen of infected males, and transmission through sexual contact is likely.

In 2012, a total of 44 states submitted 40,599 reports of chronic hepatitis B to the Centers for Disease Control and Prevention (CDC). The CDC also received 2,895 case reports of acute hepatitis B during 2012. Of these acute cases, 42% did not include a response (i.e., a "yes" or "no" response to questions about risk behaviors and exposures) to enable assessment of risk behaviors or exposures. Of the 1,690 case reports that had risk behavior/exposure information:

> 60.6% (n = 1,024) indicated no risk behaviors/exposures for hepatitis B.
>
> 39.4% (n = 666) indicated at least one risk behavior/exposure for hepatitis B during the 6 weeks to 6 months prior to illness onset (injections, multiple sex partners, household with known HBV individuals) (CDC, 2012)

Hepatitis C (HCV), the most common blood-borne infection in the United States, is a viral disease that destroys liver cells. There are approximately 3.2 million U.S. residents affected by HCV. Mortality from HCV exceeds mortality from HIV/AIDS in the U.S. (CDC, 2012).

In 2012, a total of 145,762 reports of chronic hepatitis C infection were submitted to the CDC by 44 states. In addition, there were 1,778 reported cases of acute HCV—a 75% increase

compared with the number of cases reported in 2010. This number represents an estimated 21,870 total acute cases. Some say that the numbers infected are higher than those for HIV/AIDS.

HCV is mostly transmitted through the sharing of needles, and sexual transmission is low. The largest increase of cases was among persons aged 0-19 years. Further, of the acute cases reported with responses to risk behavior questions (63%), 65% indicated at least one risk behavior/exposure in the 2 weeks to 6 months prior to illness onset. Of those who reported risk information, 513 (75%) indicated injection drug use risk and 86 (13%) indicated recent surgery (CDC, 2012).

People with newly acquired HCV are either asymptomatic or have a mild clinical illness. They may exhibit such symptoms as jaundice, abdominal pain, loss of appetite, nausea, and diarrhea. However, most infected people exhibit mild or no symptoms. HCV RNA can, however, be detected in blood within 1 to 3 weeks after exposure.

About 85% of people with acute hepatitis C develop a chronic infection. Chronic hepatitis is an insidious disease whose barely discernible symptoms can mask progressive injury to liver cells over two to four decades. (CDC, 2012). Chronic hepatitis C, as well as excessive alcohol consumption, often leads to cirrhosis of the liver and liver cancer. Liver cancer is the tenth most common cancer and the fifth most common cause of cancer death among men, and the ninth most common cause of cancer death among women. (American Cancer Society, 2015)

Since the publication of the fifth edition of this book, amazing progress has been made in the treatment and cure of HCV. There are now several antiviral drugs on the market that cure the disease. As well, there are multiple other drugs in clinical trials and in process. This breakthrough will save millions of lives in the coming years.

HIV/AIDS

An estimated 35 million people were living with HIV or AIDS worldwide in 2011, with 2.1 million new cases in 2012. In the United States, about 1.2 million people were living with HIV at the end of 2011, the most recent year for which this information was available. Of those people, about 14% do not know they are infected. An estimated 1.5 million people died from AIDS-related illnesses in 2013, and an estimated 39 million people with AIDS have died worldwide since the epidemic began. (CDC, 2012).

Six common transmission categories are male-to-male sexual contact (MSM), injection drug use (IDU), male-to-male sexual contact and injection drug use (MSM+IDU), heterosexual contact, mother-to-child (perinatal) transmission, and other (including blood transfusions and unknown cause). The highest rate of infection remains male-to-male sexual contact, but injection drug use is second.

African Americans are most affected by HIV. In 2010, African Americans made up only 12% of the U.S. population, but had 44% of all new HIV infections. Additionally, Hispanics/Latinos are also strongly affected. They make up 17% of the U.S. population, but had 21% of all new HIV infections. In 2010, MSM had 63% of all new HIV infections, even though they made up only around 2% of the population. Individuals infected through heterosexual sex made up 25% of all new HIV infections in 2010.

HIV especially affects young people, aged 13 to 24. They comprised 16% of the U.S. population, but accounted for 26% of all new HIV infections in 2010. Not all young people are equally at risk, however. Young MSM, for example, accounted for 72% of all new infections in people aged 13 to 24, and young, African American MSM are even more severely affected (CDC, 2012).

We would be remiss not to discuss these major diseases along with the other secondary costs of the primary use of substances. At best this information is frightening; in reality, it is