



# Substance Use and Older People



**Edited by**  
Ilana Crome  
Li-Tzy Wu  
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WILEY Blackwell

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# **Substance Use and Older People**

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*This book is dedicated to our families – past, present and future.*



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# FOREWORD

This edited volume by Drs. Crome, Wu, Rao and Crome, *Substance Use and Older People*, arrives at just the right moment. To my knowledge this is the first book devoted to substance use disorders in older adults. And the substances include alcohol, illicit drugs and tobacco use, all challenges to the well-being of the elderly. Focus upon substance misuse has become increasingly timely, for the numbers of older adults will increase dramatically with the aging of the baby boomer generation (what some have called the grey tsunami). In addition, the relatively heavier burden of substance misuse in middle aged cohorts compared to older cohorts suggests that the burden will be even greater than simply projected by the increased number of elders. Not only is this volume timely, the chapters are comprehensive, in depth and they cover a range of critical topics, from psychopharmacology to the legal and ethical issues associated with substance misuse in this population. The multinational focus is also welcomed as concentration on one country, even one continent, will underestimate the valuable data which is emerging worldwide and which can inform clinical practice.

I recently chaired an Institute of Medicine (IOM) committee that produced the report, *The Mental Health and Substance Use Workforce for Older Adults: In Whose Hands?* (National Academies Press, Washington, DC, 2012). Our original charge was to explore the workforce needs for mental health problems in the elderly, yet within one hour of our first meeting the committee identified substance use disorders of enough importance that it received equal billing in our report. The demographic and epidemiological data presented in this volume clearly document the presence of problems, such as binge drinking of alcohol, that are already of public health significance among older adults. In addition, middle-aged cohorts carry a much higher burden than elders of substance misuse that cuts across a variety of problems, from nonprescription use of prescription medications to use of illegal substances such as heroin and cocaine. We have not accumulated data to date that documents that this burden will persist as the middle aged enter late life. Nevertheless, past history and common sense suggests that we will face a higher burden clinically in the future among the elderly than we face today. And according to the IOM report, we do not have a workforce, both professional and volunteer, to meet the needs of these elders. To prepare investigators and practitioners to fill the emerging workforce need, this volume will be especially valuable as a basic text and ready reference for this workforce.

Substance use disorders and their functional as well as social limitations are complex and typically occur with other health problems. They often go unnoticed in large part because they are not viewed by health-care professionals and family as important enough to explore in clinical or even personal family communications. We do not wish to consider that our parents and grandparents, who we may have revered during our earlier lives, may suffer from an embarrassing problem that we typically identify with adolescents or young adults. If we are guilty of this oversight, we either consciously or inadvertently cover over substance misuse and, subsequently, the problems worsen and the older adult suffers. The chapter on elder abuse highlights that abuse may take the form of neglect of obvious problems and discouragement in seeking proper care.

Recent analyses of extant data focusing on the elderly, especially the National Survey of Drug Use and Health (NSDUH), has documented over the past ten years the burden in the elderly, a burden that was not well studied in past epidemiological studies. To put this another way, if we need solid numbers to back up our claim that substance use is a major public health problem among the elderly, the numbers are there! Chapters on epidemiology and demography within this text provide easy access for readers, especially valuable if readers are in a position to influence policy at local, state and federal levels.

The next section of the book focuses upon multidisciplinary approaches to substance misuse in the elderly. Treating substance use disorders at all ages, but especially in the elderly, requires a team. And that team may consist of members not usually associated with treatment at earlier ages, namely practitioners from clinical medicine. Older persons are vulnerable to a 'cascade effect' if they suffer from significant and ongoing problems in one area of health. For example, an older adult may have abused alcohol for many years and now encounters medical complications, such as liver disease. Yet another older person may suffer from low back pain and then begin to abuse opioid analgesics. Rarely can one specialist adequately treat substance misuse in isolation. This volume provides a framework for multidisciplinary as well as interdisciplinary approaches to care. I would propose that professionals treating older adults with substance use disorders may actually need transdisciplinary care, namely care from professionals who have skills which cross disciplines, such as substance use counselling, medical care of co-morbid problems and the effective use of psychotropic medications. That is, care of this population may benefit from a new type of professional in the future.

Treatment of substance use disorders across the life cycle is difficult, with few approaches leading to consistently dramatic improvements which persist through time. The authors of chapters on treatment and the system of health care focused on late life substance misuse recognize these challenges and provide useful guides for better treatment today and into the future. I would propose, however, that our knowledge base for effective treatment is incredibly limited for the elderly and we need much more research to inform our treatments. This volume provides a useful catalogue and description of current evidence-based as well as traditional treatments from which future treatments can evolve.

In conclusion, the authors appropriately consider policy. I refer back to the IOM volume, for the main purpose of that report was to shape policy. The response? Despite these tough economic times and the divisions in Washington, people are listening. So policy makers must speak up. The material in this volume will be welcomed by those who both set and advocate for policy. The time is right, the material is current, and the need is great. Congratulations to the authors and editors for their excellent work.

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# INTRODUCTION

Ilana B. Crome, Li-Tzy Wu, Rahul (Tony) Rao and Peter Crome

There are indications that the number of older people who use substances is increasing, and is likely to continue to do so over the next two decades [1, 2]. Projections suggest that the number of older illicit substance misusers will double from 2006 to 2020 [3]. Inappropriate prescribing, drug interactions and the use of over-the-counter medicines as well as those purchased on the Internet are further cause for concern, as they are likely to result in premature mortality and morbidity, as well as damage to social functioning. Experience in clinical practice (e.g. addiction, old age psychiatry, geriatric medicine, emergency medicine and trauma) suggests that this vulnerable group is a growing but neglected. Further investigation of this cohort is gaining momentum in research activities related to epidemiological trends, clinical treatment outcomes and professional education, and in health and social policy (e.g. models of service delivery). In 2011, the United Kingdom the Royal College of Psychiatrists produced a comprehensive report on older substance misusers, 'Our Invisible Addicts' – it generated enormous interest and reaction [4].

In this book we explore substance use and misuse (including smoking, drinking, illicit drug use, nonmedical prescription drug use, and dependence) in older people. We have covered thorny issues such as differences in the description and diagnosis of substance use, misuse and dependence in older people as compared with younger ages. By examination of recent trends, projections and predictors, we have charted the risk and resilience features, such as inequalities, culture and ethnicity, drawn from the longitudinal studies of ageing. We take the life course approach, which advances the understanding of older substance users from the social, biological, psychological and medical perspectives. We examine the effects and adverse acute and chronic impact of substances on the physical, psychological, psychiatric and social function. We have outlined what the core features of comprehensive geriatric assessment should encompass. We have paid special attention to the clinical consequences and complications – physical and psychiatric – including falls, trauma, pain, cancer, cardiovascular, respiratory, neuropsychiatric, dementia, confusion, depression, anxiety and paranoid disorders. This is because of the poorer outcomes associated and the greater likelihood that older people with substance problems might suffer from combined disorder.

Treatment interventions and outcomes in older people, in concert with the development of service delivery models, are a major focus. The spotlight has been on treatment options – being sensitive to the special needs of older people (sensory, mobility, cognitive); cultural context of treatment; the range of options (i.e. one-to-one, group, family); pharmacological (alcohol, opiate, nicotine and co-morbid disorders);

psychological/psychosocial approaches (e.g. general counselling), specific techniques (e.g. motivational enhancement and cognitive behavioural therapy); self-help/mutual aid, the role of social networks and creative programmes. Social factors in recovery and rehabilitation (including statutory services such as home care) and the impact of housing (e.g. sheltered accommodation) have been emphasized. Where available we have presented information on service models and service designs. Paramount is the identification of gaps that can stimulate future research. Recommendations for policy directives, in relation to current and future practice, build on the synthesis of knowledge acquired during the evolution of the book.

We have pointed to the diverse treatment settings at which older substance misusers might present or need emergency or continuing care. These include intensive care, trauma, pain management, cardiovascular and respiratory units, gastroenterology, oncology, neurology, ophthalmology, primary care, geriatric medicine, old age psychiatry wards, nursing homes, renal and urological units, and even prison. We have embraced ethics and philosophies of care of older people, such as the role of users, carers and communities.

We hope that the book will be of interest to old age psychiatrists, addiction psychiatrists, geriatricians, gerontologists, educators, epidemiologists, psychologists, clinical social workers, case managers, sociologists, policy makers, researchers, general health-care providers, commissioners, and politicians. Undergraduate and postgraduate students across the range of clinical, research and policy arenas as well as related specialist areas such as epidemiology, clinical medicine, psychology, economics, sociology, social and health policy should also find it engaging and stimulating.

Our aim has been to review, reflect upon and draw together the most up-to-date information available on a fast growing topic. We hope this will be a resource for practitioners (be it in geriatric medicine, old age psychiatry as well as other professional groups), policy makers and educators who are involved in the prevention of ill health of older people and who provide interventions. That the public, as well as professionals, become increasingly concerned is a key aspiration.

We have been so privileged to work with distinguished colleagues around the world who have enriched the process and have come together to produce something that we believe does take the field forward. We would like to acknowledge their passion, goodwill, enthusiasm, patience, humour and rigour.

## References

1. Wu, L.T. and Blazer, D.G. (2011) Illicit and nonmedical drug use among older adults: A review. *Journal of Aging and Health*, 23, 481–504.
2. Wu, L.T. and Blazer, D.G. (2014) Substance use disorders and psychiatric comorbidity in mid and later life: a review. *International Journal of Epidemiology*, 43(2), 304–317.
3. Han, B., Gfroerer, J.C., Colliver, J.D. and Penne, M.A. (2009) Substance use disorder among older adults in the United States in 2020. *Addiction*, 104, 88–96.
4. Crome, I.B., Rao, T., Tarbuck, A. *et al.* (2011) Our Invisible Addicts. Royal College of Psychiatrists Council Report 165. Royal College of Psychiatrists, London.

# LIST OF ABBREVIATIONS

AA	Alcoholics Anonymous
AADL	Advanced Activities of Daily Living
ACE-R	Addenbrooke's Cognitive Assessment – Revised
ADE	Adverse Drug Event
ADL	Activities of Daily Living
ADR	Adverse Drug Reaction
AIDS	Acquired Immune Deficiency Syndrome
ALN	Alcohol Liaison Nurse
ARPS	Alcohol-Related Problem Survey
ASAM	American Society of Addiction Medicine
AUD	Alcohol Use Disorder
AUDIT	Alcohol Use Disorders Identification Test
AUDIT C	Alcohol Use Disorders Identification Test Consumption
BAC	Blood Alcohol Concentration
BAL	Blood Alcohol Level
BI	Brief Intervention
BRFSS	Behavioural Risk Factor Surveillance System
BRITE	Brief Intervention and Treatment for Elders
CAGE	Cut down, Annoyed by criticism, Guilty about drinking, Eye-opener drinks
CARET	Co-morbidity Alcohol Risk Evaluation Tool
CBC	Complete Blood Count
CBT	Cognitive Behavioural Therapy
CDC	Centers for Disease Control and Prevention
CDT	Carbohydrate Deficient Transferase
CGA	Comprehensive Geriatric Assessment
CI	Confidence Interval
CIDI	Composite International Diagnostic Interview
CMHT	Community Mental Health Team
CNS	Central Nervous System
COPD	Chronic Obstructive Pulmonary Disease
CSAT	Center For Substance Abuse Treatment
CT	Computed Tomography
DA	Dopamine
DAST	Drug Abuse Screening Test
DAWN	Drug Abuse Warning Network
DHHS	Department of Health And Human Services

DSM	Diagnostic and Statistical Manual of Mental Disorders
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
E-CBT	Extended Cognitive Behavioural Therapy
ECHR	European Convention of Human Rights
e-combined	Extended combined treatment
ED	Emergency Department
EEG	Electroencephalogram
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
E-NRT	Extended Nicotine Replacement Therapy
ENSPM	English National Survey of Psychiatric Morbidity
EtG	Ethyl Glucuronide
EtS	Ethyl Sulfate
FDA	Food and Drug Administration
FRAMES	Feedback, Responsibility, Advice, Menu of options, Empathy, Self-efficacy
GABA	Gamma-Aminobutyric acid
GATS	Global Adult Tobacco Survey
GFR	Glomerular Filtration Rate
GGT	Gamma-Glutamyl Transferase
GP	General Practitioner
HCV	Hepatitis C Virus
HIPAA	Health Insurance Portability Rehabilitation Act
HIV	Human Immunodeficiency Virus
IADL	Instrumental Activities of Daily Living
ICD-10	International Classification of Diseases, Tenth Revision
IDUs	Injection Drug Users
IP	Inappropriate Prescribing
IT	Information Technology
LCA	Latent Class Analysis
LSD	Lysergic Acid Diethylamide
LTCs	Long-Term Conditions
MAOI	Monoamine Oxidase Inhibitor
MAST	Michigan Alcoholism Screening Test
MAST-G	Michigan Alcoholism Screening Test – Geriatric version
MATCH	Matching Alcoholism Treatments to Client Heterogeneity
MCA	Mental Capacity Act
MCV	Mean Corpuscular Volume
MET	Motivational Enhancement Therapy
MH/SU	Mental Health/Substance Use
MI	Motivational Interviewing
MM	Moderation Management
MMAST-G	Mini-Michigan Alcoholism Screening Test – Geriatric
MMSE	Mini-Mental State Examination
mPFC	Medial Prefrontal Cortex
MRI	Magnetic Resonance Imaging

NCHS	National Center for Health Statistics
NCPIE	National Council on Patient Information and Education
NDTMS	National Drug Treatment Monitoring System
NESARC	National Epidemiologic Survey on Alcohol and Related Conditions
NGO	Non-Governmental Organization
NHIS	National Health Interview Survey
NHS	National Health Service
NHSDA	National Household Survey on Drug Abuse
NIAAA	National Institute on Alcohol Abuse and Alcoholism
NICE	National Institute for Health and Clinical Excellence
NIDA	National Institute of Drug Abuse
NLAES	National Longitudinal Epidemiologic Survey
NMDA	N-methyl-D-aspartate
NRT	Nicotine Replacement Therapy
NSAID	Non-Steroid Anti-Inflammatory Drug
NSAL	National Survey of American Life
NSDUH	National Survey on Drug Use and Health
OR	Odds Ratio
OTC	Over-The-Counter
PCMH	Patient-Centered Medical Home
PET	Phosphatidyl Ethanol
PIM	Potentially Inappropriate Medication
PPO	Potential Prescribing Omission
PTSD	Post-Traumatic Stress Disorder
QF	Quantity/Frequency
RPT	Relapse Prevention Therapy
SAMHSA	Substance Abuse and Mental Health Services Administration
SBIRT	Screening of substance misuse, Brief Intervention, and Referral to Treatment
SDDCARE	Senior Drug Dependents and Care Structure Project
shARPS	Short Alcohol-Related Problem Survey
SLCHS	Southeast London Community Health Survey
SMAST	Short Michigan Alcoholism Screening Test
SMAST-G	Short Michigan Alcoholism Screening Test – Geriatric Version
SMCD	Substance Misuse and Co-morbid Mental Disorders
STOPP	Screening Tool of Older Persons' Prescriptions
SUD	Substance Use Disorder
TEDS	Treatment Episode Data Set
THC	$\Delta^9$ -tetrahydrocannabinol
TIP	Treatment Improvement Protocol
TSF	Twelve-Step Facilitation
UC	Usual Care
VTA	Ventral Tegmental Area
WHO	World Health Organization