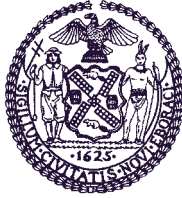


Manual for Primary Care Providers: Effectively Caring for Active Substance Users



The New York Academy of Medicine
New York, New York



Manual for Primary Care Providers: Effectively Caring for Active Substance Users

**Prepared for
The HIV Health and Human Services
Planning Council of New York**

Edited by

Ruth Finkelstein, ScD and Sandra E. Ramos, PhD

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For a copy of this publication, please contact:

Office of Special Populations

The New York Academy of Medicine

1216 Fifth Avenue

New York, New York

10029-5293

Tel: (212) 822-7237

Fax: (212) 876-4220

Web: www.nyam.org

PREFACE

For more than 150 years, The New York Academy of Medicine has committed itself to improving the health of vulnerable urban populations. Researchers at The New York Academy of Medicine have documented the considerable challenges substance users face in accessing health care in New York City. Because of the Academy's expertise in this area and its commitment to high-quality health care for all people, New York City's HIV Health and Human Services Planning Council charged us with developing a manual that could help primary care providers to better meet the needs of substance-using patients. We accepted this challenge, and have produced a manual that begins to address the complex clinical issues that are involved in caring for substance users. This manual is intended to serve as a resource to the primary care provider. We also hope that it may serve as a resource to any individual or organization concerned about improving the quality of care active substance users receive.

The Manual's Advisory Committee, a distinguished and knowledgeable group of substance use experts, ensured that the Academy approached the topic comprehensively and compassionately. From the outset, we were committed to producing a manual that addressed all aspects of care, from HIV to Harm Reduction. The result is a manual that addresses pressing clinical topics such as infectious diseases, addiction, and pain management; specific populations, such as women and pregnant substance users; and the larger policy context affecting substance users. The importance of honest provider-patient communication is stressed in each chapter, because physicians cannot effectively treat substance users unless they can talk openly with them as patients.

Open communication, however, is not sufficient to ensure that substance users receive quality health care. Clinical care providers must also examine their attitudes towards substance-using patients and

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identify what prejudices may be affecting the level of care they provide. This manual has the dual goals of improving the care substance users receive and reducing the stigma associated with substance use by demonstrating the similarities of addiction to other chronic conditions that physicians encounter in daily practice.

As Senior Vice President of an organization committed to improving the health of the public in urban environments, I am proud that we could play a role in the development of this project. I urge readers to see this manual as a work in progress, and one that we will undoubtedly build upon in the future as our understanding of substance use and our standards of clinical practice evolve.

Sincerely,

Alan R. Fleischman, MD
Senior Vice President
The New York Academy of Medicine

ACKNOWLEDGEMENTS

This manual is the result of the work and dedication of countless individuals whose commitment to good public health for all people, including active substance users, raises awareness of the health issues facing this population. The health of active substance users, a group that is often stigmatized and, as a result, pushed to the margins of care, needs to be brought back to center as a public health concern that has implications for everyone in our society. The manual is meant to address some of the attitudes and preconceptions that many health providers have about caring for active substance users, highlight several of the clinical issues and concerns raised by physicians who care for this population, and provide health practitioners with information helpful to understanding and treating active substance users.

The idea for this manual originated from an earlier study “*Health Care Accessibility and Acceptability among People Who Inject Drugs and Use Crack Cocaine*,” conducted by Linda Weiss, PhD of The New York Academy of Medicine for the HIV Health and Human Services Planning Council of New York. Dr. Weiss’ findings highlighted the stigma and structural barriers substance users experience when they attempt to access health care services and served as a catalyst for addressing the problem. We thank the New York City Mayor’s Office for AIDS Policy Coordination and the HIV Health and Human Services Planning Council of New York for their foresight in recognizing the need to address the barriers identified in Dr. Weiss’ study and agreeing to fund both the development of a manual for primary care physicians who treat active substance users, and a manual for substance users on how to navigate the healthcare system.

We thank Dr. Jeremiah Barondess, President of The New York Academy of Medicine, whose involvement with *Physician Leadership on National Drug Control Policy* and his vision for enhancing the health of individuals and populations, with a particular focus on the urban

poor, has created a work environment where innovative research and scholarship can flourish. We are deeply indebted to our Advisory Committee, a distinguished group of health and medical professionals with experience in addiction medicine, substance abuse, and primary care, who guided the selection of topics, read and critiqued the manuscripts, and in the end validated the need for this endeavor. The Committee members are: Robert Busan, Mayoral Program Coordinator, Mayor's Office of AIDS Policy Coordination; Ernest Drucker, PhD, Director, Division of Community Health, Montefiore Medical Center; Alan Fleischman, MD, Senior Vice President, The New York Academy of Medicine; Marc Gourevitch, MD, MPH, Medical Director, Division of Substance Abuse, Albert Einstein College of Medicine; Wanda Huff, MD, Medical and Professional Affairs, Health and Hospitals Corporation; Ronda Kotelchuck, Executive Director, Primary Care Development Corporation; Bart Majoor, Deputy Director, St. Ann's Corner of Harm Reduction; Warren Morrisett, Vocational Instruction Program, Inc.; Robert Newman, MD, President and CEO, Continuum Health Partners; Richard Payne, MD, Chief, Pain and Palliative Care Service, Memorial Sloan Kettering Cancer Center; Sharon Stancliff, MD, Office of the Medical Director, New York State Department of Health AIDS Institute; and Rogelio Thomas, MD, Special Care Medical Associates.

We thank the chapter contributors for their creative and thoughtful contributions to the manual: Richard Elovich; Hillary Kunins, MD; A. T. McLellan, PhD; Amar Munsiff, MD; Peter Selwyn, MD; Sharon Stancliff, MD; Janet Stein, MD; Rebecca Tiger; and Daniel Wolfe. Their compassionate and provocative approach to the issue of caring for substance users offers another framework from which to view this complex problem. In addition, we are grateful to the physicians, physician assistants, nurse practitioners, administrators, and policymakers who were interviewed and whose concerns punctuate many of the narra-

tives in the manual. We appreciate the input of the medical students and residents who participated in the usability testing of the manual. The remarkable diligence of Susan Kleimann and Michelle Witte of Kleimann Communication Group and Mary Pettigrew of Ampersand Graphic Design, Inc. brought the book to fruition in the editing, design and production. Their keen understanding of the issue and thoughtful recommendations throughout this project helped to improve the presentation of the information herein.

We thank all of our colleagues in the Office of Special Populations (OSP) especially Rosemary Alcantara and Jonathan DeWan, who kept us on target administratively. A special thanks to our office assistant Crystal Lo, who formatted and prepared all of the manuscripts for review, and OSP Research Associates Rebecca Tiger and Christine Nollen, who assisted with the research design, data collection, and compilation of the resource information.

Special thanks to our families and our friends for their love and support of our life's work.

Support for this project was made possible by a grant from the U.S. Health Resources and Services Administration (HRSA) under Title I of the Ryan White Comprehensive AIDS Resources Emergency Act of 1990, with the support of the HIV Health and Human Services Planning Council, through the New York City Department of Health and Medical and Health Research Association of New York City, Inc. Its contents are solely the responsibility of the Authors and do not necessarily represent the official views of the U.S. Health Resources and Services Administration, the City of New York, or the Medical and Health Research Association of New York.

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INTRODUCTION

The purpose of this manual is to provide primary care physicians practicing in New York City with basic information on active substance users, to inform physicians of common health problems frequently encountered when caring for this population, to discuss the issues affecting substance users' access to care, and to create an alternative framework for viewing their care. While the focus of this manual is on substance use in New York City, the topics covered herein can be of use to specialty physicians or physicians working with substance-using populations in other states. We hope this information will help to foster better communication between physicians and active substance users, while giving physicians a better understanding of this population's special needs.

Although New York City boasts an extensive public, private, and voluntary health care delivery system, it is still a challenge to ensure that the needs of active substance users, particularly heroin and crack-cocaine users, are met. Substance users are known to have high morbidity, which frequently requires health care;¹ yet many physicians who provide care to this population are unprepared to care for them.² The absence of a mandate for training in substance use in most medical school curricula contributes to physicians' lack of skill in this area of healthcare.³ As a result of this lack of training, physicians' ability to identify and address substance abuse in their patients is diminished,⁴ and their efforts to assist users in availing themselves of needed services are compromised. Furthermore, physicians' feelings of discomfort in providing care to active substance users can flourish when left unchallenged. For example, a study of primary care physicians providing care to HIV patients at a New York City hospital revealed that 55% were uncomfortable having injection drug users in their practice.⁵

The consequence of negative attitudes and beliefs—fostered by a lack of knowledge—about substance-using patients can fuel an antagonistic

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interaction between the patient and the physician and further impede the development of a good therapeutic relationship (which most medical encounters should engender), ultimately affecting the quality of care active substance users receive.

Substance abuse is the number one health problem in the nation. Its attendant financial and social costs pose a Herculean challenge to both public health policy and public health institutions.⁶ Long considered one of the epicenters of the twin epidemics of substance abuse and HIV/AIDS, New York City is a microcosm of this national problem. Substance abuse cost New York City 20 billion dollars in 1994.⁷ In 1996, the New York metropolitan area recorded 136 heroin and 264 cocaine emergency department mentions per 100,000 population, which is roughly four times the national average of 31 and 61 per 100,000 respectively.⁸ New York City is also considered “a major center of heroin activity in the United States,” with an estimated 160,000 heroin users.⁹ With only 42,000 treatment slots available,¹⁰ there is a shortfall in capacity to provide treatment.¹¹ During the first quarter of 2000, injection drug use accounted for, directly and indirectly, approximately 70% of the AIDS cases diagnosed in New York City.¹² Given this backdrop, it makes good public health sense to reach active substance users “where they are” to reduce the harm caused by substance use, and to provide practical information to physicians who care for them.

We recognize that treatment of the patient’s dependence on or addiction to drugs is not within the purview of primary care physicians. The provision of comprehensive care for the substance user is challenging given the fact that many active substance users straddle two distinct systems: drug treatment and health care. However, primary care is an important link in the overall chain of services that substance users require to maintain good health. A patient’s active use of substances

should not preclude him or her from obtaining health care. Addressing misguided assumptions and unrealistic expectations held by providers in treating this population may begin to remove some barriers to care. Providing physicians with practical information on caring for substance users may help to facilitate a better understanding between physicians and patients, thus improving the quality of care. When health care providers approach the care of active substance users from a place of concern and compassion as opposed to a moral imperative, many of the barriers active users perceive when trying to obtain services are likely to be removed, and early and less costly medical interventions encouraged.

This manual is an outgrowth of The New York Academy of Medicine's recently completed study on "*Health Care Accessibility and Acceptability Among People Who Inject Drugs or Use Crack Cocaine.*" Interviews were conducted with active substance users in New York City about their experiences accessing the health care system. While some active substance users reported positive experiences, for the most part, their experiences were negative, and highlighted the inordinate amount of prejudice they encountered when seeking medical care.¹³ Subsequent interviews with several New York City physicians who provide care to active substance users in primary care clinics, HIV/AIDS clinics, and drug treatment facilities revealed some of the challenges they face in providing care to active substance users and the barrier stigma plays in making the medical encounter less than desirable for both patients and physicians.¹⁴

"They [substance abusers] are very demanding. They don't know how to wait for appointments. They feel easily rejected and discriminated against. If a mistake is made, they become defensive and argumentative. They need immediate gratification."

— *A physician in a primary care clinic*

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The pervasive stigmatization of substance users, both those in recovery and those actively using, often impacts their ability to access healthcare services. Despite research findings that show addiction is a brain disease—a chronic, recurring illness with biological, behavioral and social components—¹⁵ many people in this society still hold the belief that it is an individual flaw, a sign of weakness that can be easily corrected. These attitudes and beliefs often minimize the compassion shown toward, and care given to, active substance users, and erect barriers to care.

Keenly aware of the stigma surrounding drug use, some users who access the system withhold their drug-using behavior in order to be treated with a modicum of respect. As a patient noted, “I went for frostbite for my foot...They treated me great for like two weeks... Soon as I told’em I was a junkie, everything switched and it was overnight... soon as I told ‘em the truth—I had to get out of there and get straight—their attitude switched in a matter of hours.”

Substance use is a multifaceted and complex issue. The task of addressing the tension that exists between the prejudice shown towards active substance users and their right to medical care despite continued drug use is formidable. The practice of providers withholding care or patients withholding information due to the stigma that abounds toward substance users does a disservice to the patient, the physician, and to society. In such cases, the physician does not have all the information needed to adequately treat the patient, the patient does not get needed care, and improperly treated illness may pose harm to others. In a society that has diverse and divergent viewpoints on the problem of substance use and its solution, it is difficult to imagine reaching a consensus on the appropriate approach to care for active substance users. However, our work with active substance users has taught us that the perspectives of both affected groups—physicians

and active users—must be considered for the dialogue to begin, and for action to be taken to ameliorate the problem of accessibility and acceptability of active substance users.

The Office of Special Populations of The New York Academy of Medicine was funded by a grant from the U.S. Health Resources and Services Administration under Title I of the Ryan White Comprehensive AIDS Resources Emergency Act of 1990, with the support of the HIV Health and Human Services Planning Council, through the New York City Department of Health, and Medical and Health Research Association of New York City, Inc. to develop manuals for providers who treat active substance users and for consumers who are active users. Although active users may use multiple substances, this manual focuses mainly on heroin and crack-cocaine users, particularly because of the addictive nature of these drugs, the proliferation of heroin and crack cocaine in New York City, and the serious sequelae for users of these drugs.

We assembled an advisory committee of physicians, administrators, addiction medicine specialists, primary care physicians, and drug treatment specialists to guide the conceptualization and focus of this manual. A survey instrument was designed and face-to-face interviews were conducted with New York-based health care providers (primary care physicians, physicians assistants, and nurse practitioners) who have direct responsibility for the medical care of substance users in a variety of health care settings to obtain information about their experiences, attitudes, and practice in treating active substance users. The topics covered in this manual were gleaned from themes and concerns that emerged in these interviews along with input and guidance from our advisory committee. We used excerpts from the interviews throughout the manual to illustrate the real life experiences and impressions of both substance users and physicians who care for them.

We debated whether to write all of the selected topics in house, and decided that just as the issue of care for active substance users has wide and varying perspectives, multiple viewpoints should be presented. Authors who had already published in the area of substance use or were working directly with this population were invited to contribute their expertise. The chapters in this manual were written by expert physicians and researchers in the field of substance abuse, as well as physicians with day-to-day responsibilities in caring for patients who are active substance users. In most cases, chapters are original submissions, with the exception of “The Case for Drug Dependence as a Chronic Medical Illness,” by Drs. McLellan, Kleber, Lewis and O’Brien, which covers material published earlier and is reprinted with the permission of the authors and publication. The appendices list selected resource information and briefly describe some alcohol and drug screening tools the physician may find helpful in caring for his or her patients.

The editors and the Office of Special Populations of The New York Academy of Medicine use the words “substance use” and “substance user” rather than the more pejorative words “abuse” and “abuser”—the clinically specific language of addiction. However, since different authors wrote several chapters of this manual, the editorial decision was made to retain the authors’ language and not to censor their opinions.

In the chapter on “Substance Users,” Richard Elovich and Daniel Wolfe present some of the epidemiological data on substance users in New York City. They describe how this population is regarded and discuss some of the issues that impede their obtaining healthcare services, while questioning our cultural attitudes on labeling individuals who use illegal drugs. Physicians are challenged to look beyond their patients’ drug use to see the many human needs their patients may present with, and to which they may be able to offer help. Advice on improving physician-patient communication is also offered.

Physicians who have some knowledge of substance use may screen for substances and refer the patient for treatment. Many primary care physicians, however, have little knowledge of the treatment system to which they refer their patients. In the chapter on “Drug Treatment and Harm Reduction,” Dr. Sharon Stancliff describes the biological basis of addiction and presents a description of various traditional and alternative treatment modalities for addiction to opioids, stimulants and depressants. A discussion on the benefits and drawbacks to many of these treatment modalities is presented. In contrast to a treatment approach of “abstinence from drugs,” the controversial approach of harm reduction is presented as “a treatment option” that more physicians should consider in caring for active substance users who may not be ready to give up drug use. It is posited as a “tool” that physicians may use to establish a meaningful relationship with a patient, to reduce the risk of harm to the patient until the patient is ready to enter treatment.

For many injection drug users, access to care is a major issue.¹⁶ The “Barriers to Care” chapter highlights some of the external (such as economic and geographic limitations) and internal factors (such as lack of trust and respect) that may impede active substance users from obtaining needed care. Both patients’ and physicians’ “voices” highlight the points made and practice notes are offered to begin addressing the problem.

While many active substance users may shy away from seeking routine medical care, they invariably end up in the healthcare system either through the emergency room or through inpatient hospitalization. In “Common Medical Problems in Substance Users,” Drs. Hillary Kunins and Peter Selwyn note some co-morbid conditions and common complications related to injection use that clinicians should be aware of. They provide very practical suggestions to the primary care

physician on obtaining a complete medical and psycho-social history, and identifying physical signs of substance use. Physical findings specific to drug use, skin and soft tissue complications, and common infectious illness for which active substance users should be screened are presented. In recognition that successful relationships may lead to better adherence, suggestions are offered on how to create meaningful patient-physician relationships.

Much of the concern on the pregnant substance user has focused around the issue of harm to the unborn child. However, in "Substance Abuse in Pregnancy," Dr. Janet Stein argues for the importance of focusing on the woman's health. She discusses why clinicians need to view the prenatal state as an opportunity for intervention and not create needless barriers to care by exacting punitive measures because of the woman's drug use. Dr. Stein urges both the obstetrical and pediatric staffs to be aware of the woman's vulnerability during the intrapartum and postpartum stage, and to look for signs that indicate she may need support. Dr. Stein encourages physicians to employ some attitudinal shifts to enhance their interactions with their patient.

Pain management has been a long-standing issue in the treatment of substance users. It is an issue that causes great concern for primary care physicians, who often have to prescribe pain medication for patients who are actively using drugs. In "Pain Management in Substance Users," Dr. Peter Selwyn notes that many of the substance users' physical and medical conditions contribute to the "high prevalence of pain" found in this population. He comments on the importance of physicians' becoming familiar with their patients' substance use as well as their pain history prior to developing a pain management plan. A protocol for the assessment of pain is given, with classifications of the different types of pain, as well as treatment indications and their side effects. Adjuvant drugs are discussed and the treatment of

pain in substance users is presented. Potential interactions between analgesics and HIV medications are also discussed. Practical considerations and strategies are outlined to minimize manipulation of prescriptions.

In "The Case for Drug Dependence as a Chronic Medical Illness," Drs. McLellan, Kleber, Lewis, and O'Brien posit drug dependence as a disease and examine the issue from a medical perspective. Drug dependence is compared to chronic illnesses such as adult-onset diabetes, hypertension and asthma in terms of genetic heritability, measurable pathophysiology and course of illness. Although many similarities are noted between dependence and other chronic illnesses with regard to vulnerability, onset and response to treatment, the authors note that drug dependence is often treated in a manner more appropriate for "acute care disorders." Ironically, in terms of treatment "successes", relapse among diabetic, hypertensive and asthmatic patients support the effectiveness of medications and the need for continued monitoring while relapse following drug treatment is considered evidence of treatment failure suggesting that it may be necessary to re-examine the way drug treatment is delivered and evaluated. The need for more training in addiction medicine both in medical schools and residency is also suggested.

Although injection drug use directly or indirectly contributes to 70% of the AIDS cases in New York City,¹⁷ the morbidity and mortality of injection drug users infected with the human immunodeficiency virus (HIV) has declined due to the advent of antiretroviral therapies. The advancement of highly active antiretroviral therapies (HAART) has resulted in the treatment of HIV disease as a chronic medical illness. Despite the availability of many specialized HIV clinics and designated AIDS centers, active substance users are likely to encounter problems accessing care. In "Management of HIV/AIDS in Substance Users,"

Dr. Amar Munsiff discusses some of the barriers to care faced by HIV positive injection drug users. The physical and psychosocial assessment and medical management of such patients are discussed, along with the criteria for initiating and determining the regimen for antiretroviral therapy. Potential drug interactions between antiretrovirals and illicit drugs or methadone are presented.

Finally, the chapter on the “The Public Policy Context of Drug Use in New York City,” co-authored by Rebecca Tiger and Ruth Finkelstein, discusses the impact of the eligibility requirements for public programs on active substance users and their ability to obtain health care. The authors contend that an informed physician can also serve as an advocate for his/her patients if the social and public policies affecting substance users are understood.

This manual is by no means an exhaustive treatment of issues surrounding the provision of care to active substance users. It would be naïve to believe that this manual will eliminate the pervasive stigma attached to substance users. However, it may be viewed as a primer whose main purpose is to provide practical information to assist physicians in treating active substance users more effectively. Future publications should cover other topics of concern including: treating the dually diagnosed, mental health issues, interaction of licit and illicit drugs, and the abuse of benzodiazepines. It is our hope that the information, suggestions, and advice presented in this manual will generate more discussion on the care of active substance users, and that more service delivery practices will be put in place to make the clinical encounter between the active substance user and the primary care physician more rewarding and beneficial for both.

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AUTHORS' BIOGRAPHIES

Richard Elovich

Richard Elovich is a nationally recognized trainer and program evaluation consultant for substance use and HIV programs, as well as the author of the New York State OASAS curriculum on harm reduction counseling for addiction professionals. A founding member of the New York City Mayor's HIV Planning Council, he chaired its Substance Abuse Services Work Group and designed a number of new interventions and treatment strategies for active and relapsing drug users at risk for, or living with, HIV. He was an organizer of needle exchange programs in New York City and is the former Director of HIV Prevention at Gay Men's Health Crisis. He is currently a doctoral candidate in sociology and public health at Columbia University and an adjunct lecturer at Brooklyn College. His writing has appeared in the *Village Voice*, *POZ*, *the Advocate*, and Yale University's *AIDS and Public Policy*.

Ruth Finkelstein, ScD

Ruth Finkelstein is Director of the Office of Special Populations at The New York Academy of Medicine, where she leads a team of researchers in the design and implementation of several health care access research and evaluation projects for people living with HIV/AIDS. Since the beginning of the epidemic, Dr. Finkelstein has worked extensively as an advocate, policy analyst, and researcher in the arena of HIV/AIDS at the city, state, and federal levels. Dr. Finkelstein is the author of a White Paper for HRSA on the adequacy of the Title I community planning process to serve the needs of active substance users with HIV.

Hillary Kunins, MD

Dr. Hillary Kunins is a general internist in the Division of Substance Abuse at Albert Einstein College of Medicine, Bronx, NY. There, she practices primary care and addiction medicine as the Medical Director

of one of the Division's methadone maintenance clinics. In addition, she is the Program Director of Women's Health Services within the Division of Substance Abuse. In that role, she is developing a women's health program that will further the provision of quality care to women enrolled in methadone maintenance through research and program development. As a faculty member at Albert Einstein College of Medicine, she continues her commitment to training and education in the areas of substance abuse, women's health, and evidence-based medicine.

A. Thomas McLellan, Ph. D.

A. Thomas McLellan, Ph. D., is a psychologist, Professor of Psychiatry at the University of Pennsylvania, and the Director of the Treatment Research Institute in Philadelphia. He was educated at Colgate University, Bryn Mawr College, and Oxford University. He has published more than 350 articles and chapters in addiction research and serves as the Editor in Chief of the Journal of Substance Abuse Treatment.

Dr. McLellan and his colleagues created measurement instruments such as the Addiction Severity Index (ASI) and the Treatment Services Review (TSR). These instruments have been translated into more than 20 languages and are the most widely used instruments of their kind in the world. He and his colleagues have used these instruments to evaluate a wide variety of therapies, medication, and interventions used in the treatment of alcohol and drug dependence.

Amar V. Munsiff, MD

Amar V. Munsiff is the Medical Director of the HIV-AIDS Center at St. Barnabas Hospital Network, Bronx, New York. He has been involved in various aspects of HIV program services, prevention planning, and clinical education and research over the last ten years. Dr Munsiff has a

broad range of clinical experience in the field of clinical care of HIV patients with either past or active substance use, including integration of HIV care, general medical care, substance abuse treatment, psychiatric care, and psychosocial care.

Sandra E. Ramos, Ph.D., MPA

Sandra Ramos is currently the Director of the Urban Health Initiative at The New York Academy of Medicine, where she works with community-based organizations and medical schools in the New York metro region to foster medical students involvement in community service and volunteerism in underserved NYC communities. She was a Senior Research Associate in the Office of Special Populations at The New York Academy of Medicine when this manual was produced. She has more than 16 years of experience in public health administration in the institutional health care sector as a planner, manager, and policy analyst. Before joining The New York Academy of Medicine, Dr. Ramos worked with a research team at the Schneider Institute for Health Policy at Brandeis University, evaluating a program for pregnant, substance-abusing women, a program studying consumer behavior and health profession education, and a national initiative that examined access to healthcare for the uninsured and underserved.

Peter A. Selwyn, MD, MPH

Peter A. Selwyn is Professor of Family Medicine and Internal Medicine, and Chairman of the Department of Family Medicine and Community Health at Montefiore Medical Center and Albert Einstein College of Medicine. Dr. Selwyn has been a clinician and researcher in the areas of HIV/AIDS, substance abuse, and end-of-life care for more than 15 years, and has written more than 100 original articles, reviews, and book chapters on these and related topics. He is also the author of the AIDS memoir, *Surviving the Fall: The Personal Journey of an AIDS Doctor* (Yale University Press, 1998).

Sharon Stancliff, MD

Sharon Stancliff has served on the board of the Lower East Side Harm Reduction Center and is a founding member of Streetside Health Project, which provides vaccinations and other public health services at syringe exchange programs in New York City. In addition to authoring several publications, Dr. Stancliff has lectured extensively on harm reduction, methadone maintenance, HIV, hepatitis C, and other issues related to substance use.

Janet Stein, MD

Dr. Janet Stein is the Residency Program Director for OB/GYN and Associate Director of Maternal Fetal Medicine at Beth Israel Medical Center in New York City. She graduated from Wayne State University School of Medicine and completed a Fellowship in maternal-fetal medicine at Nassau County Medical Center. She has been a clinician and researcher for more than 14 years, addressing the needs of women and children. Dr. Stein has a special interest in high-risk pregnancy related to HIV and substance use; she also has a special interest in perinatal bereavement.

Rebecca Tiger, MS

Rebecca Tiger is a Research Associate in the Office of Special Populations at The New York Academy of Medicine. She is currently working on several projects, assessing and addressing the needs of active substance users. She has served as a coordinator to the Ryan White CARE Act Title I planning process in New York and New Orleans, and most recently for New York City's HIV Health and Human Services Planning Council. Ms. Tiger is pursuing a doctoral degree in Sociology at the Graduate Center, City University of New York.

Daniel Wolfe

Daniel Wolfe is a Revson Fellow at Columbia University and a health policy and communications consultant for organizations including UNAIDS, the Ford Foundation, the International AIDS Vaccine Initiative, and the Open Society Institute. The former Director of Communications at Gay Men's Health Crisis (GMHC), he is the author of the acclaimed gay men's health guide, *Men Like Us* (Ballantine Books), the editor of a manual published by the Centers for Disease Control and Prevention on outreach to active injectors, and a journalist whose work has appeared in publications including the *New York Times Book Review*, *the Guardian*, *POZ*, and *the Village Voice*.

CHAPTER 1: SUBSTANCE USERS

Richard Elovich

BROOKLYN COLLEGE

Daniel Wolfe

REVSON FELLOW, COLUMBIA UNIVERSITY

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Introduction

Generalizations about the broad category “substance users” are of limited use to the practicing physician. Statistics on illicit use frequently include individuals who occasionally use marijuana as well as those whose cocaine use is chronic or bingeing. A toxicology screen showing recent heroin use will not reveal whether the patient uses regularly or “chips” on weekends; whether the drug was snorted, smoked, or injected; how often it was administered in the course of a day, or whether it was used alone or in combination. Understanding the patient’s drug use requires a more relational experience between the user and the health care provider.

Physicians report that they have neither time nor training to address these kinds of details, and frequently prefer not to screen for drug use or solicit information about it.^{1, 2} Substance users, for their part, see little advantage in volunteering details. In New York, state policies bar active users of illicit drugs from receiving public assistance or housing and makes medical records subject to review.³ Even without the threat of lost benefits, drug users are acutely aware of provider disdain toward their behavior. In one study, New York City injectors described repeated instances of what they regarded as being dismissed, ignored, denied adequate pain medication, or “treated like dirt” as a result of their drug-using status.⁴

Whatever the objective truth of these observations, they reflect important impediments to effective health care provision:

- For physicians, health care is impeded by a failure to move beyond evidence of substance use to knowledge of the substance user—including his or her patterns of use, attendant risk, and functionality.

- For the substance user, health care is impeded by a sense of stigmatization, lack of continuity of care, and an over-reliance on emergency services.

This chapter addresses these impediments to care. Specifically, it seeks to examine:

- Basic information on substance users in New York City,
- Common perceptions that shape how substance users are regarded in and outside the health care system, and
- Strategies to increase substance users' willingness to disclose medically relevant information and to increase physician ability to treat substance users effectively.

Background

Though assessing the true prevalence of substance use is difficult, epidemiologic data is still valuable in understanding substance users.

Epidemiologic data

The stigmatized nature of illicit substance use makes it difficult to assess true prevalence. The National Household Survey of Drug Abuse from 1999 estimates that 1,030,000 New York State residents used an illicit drug in the previous month, though this figure excludes the significant number of users who are homeless, jailed, or in drug treatment facilities.⁵ In New York City, which has both the largest number of injecting drug users and the highest number of AIDS cases in the nation, the most recent estimates place the number of heroin users, with about half being "snorters," at 160,000.⁶ Of those, as many as 35% may be HIV positive.⁷

Drawn primarily from drug treatment programs, emergency department mentions, arrest records, and hospital discharges, estimates of overall heroin and cocaine use in New York may over-represent men, users of lower socioeconomic status, and those in crisis. In 1999, crack/cocaine, heroin, and alcohol in combination with one or more drugs were the substances mentioned most often in city emergency departments.⁸ More than twice as many of the patients in these episodes were African American as were Caucasian, and more than twice as many were male as were female.

Treatment figures show that patterns of use vary by sex, age, race/ethnicity, and socioeconomic status: compared with those who snort cocaine, for example, crack smokers are sharply more likely to be female and African American.⁹ Heroin users in treatment are overwhelmingly male and more likely to be Hispanic than African American or Caucasian. Since 1998, the majority of heroin users in treatment have reported intranasal administration rather than injection, with younger and Hispanic users more likely to snort than to inject.¹⁰ Nonetheless, heroin emergency room mentions in New York City remained stable from 1998-1999, while crack/cocaine emergency mentions declined by 24% over the same period.¹¹

Substance use is particularly prevalent among those juggling multiple other challenges to their health and stability. Among New York City's homeless, for example, estimates of chemical dependency exceed 50%.¹² Homeless youth; sex workers; and young gay, lesbian, and transgendered populations in New York City all report rates of illicit drug use in excess of 50%.¹³ The New York City neighborhoods with the highest rates of cocaine and opioid hospitalizations are often those facing an array of other health and social service needs. In the Bronx, for example, the five zip code areas where cocaine and opioid discharges are highest are also among those that lead the county in sexu-

ally transmitted diseases, teen pregnancy, AIDS cases other than among men who have sex with men, and poverty. In all but one, the majority of residents do not have a high school diploma.¹⁴

Lack of available treatment

There is frequently no drug treatment available even for those New York City substance users interested in stopping. New York State's Office of Alcohol and Substance Abuse estimates that there are only 42,000 methadone treatment slots statewide for the estimated 550,000 substance abusers. More than 70% of these slots are in methadone programs that address only heroin addiction, despite the fact that the majority of substance users in the city are addicted to cocaine or some combination of drugs. Only a limited number of residential treatment programs are able to provide services to women with children.¹⁵

Substance Users and Health Care—Cultural Attitudes

Cultural attitudes influence the categorization of different substances and the perception of substance users.

Categories of substances

Broadly defined—including caffeine, for example—most Americans are substance users. As table 1 suggests,¹⁶ Americans tend to group substances according to certain categories (e.g., socially acceptable, prescribed, over the counter, illegal). The category in which any given substance belongs—and a number may fall in more than one—is determined by law and social custom. In some counties in the U.S., for example, alcohol would belong in the “illegal” box, while cough syrup with codeine is available over the counter in Canada. Attitudes toward what constitutes abuse of drugs and those who abuse them are similarly socially determined. Specifically, it is easiest for many Americans to recognize that

drugs in the first three categories—such as alcohol or Valium, for example—can be both used appropriately and abused. Because substances in the fourth category are not seen to have a legitimate medical use, those who ingest them are automatically labeled addicts or abusers.¹⁷

Perceptions Of “Substance Users”

Table 1: The Matrix of Drug Acceptability

Socially Acceptable	Over-the-Counter
<ul style="list-style-type: none"> ■ Coffee ■ Alcohol ■ Cigarettes (though less and less so) 	<ul style="list-style-type: none"> ■ Caffeine ■ Alcohol ■ Nicotine
Prescribed	Illegal
<ul style="list-style-type: none"> ■ Tranquilizers ■ Hypnotosedatives ■ Stimulants ■ Pain Relievers ■ Methadone 	<ul style="list-style-type: none"> ■ Crack cocaine ■ Heroin ■ Amphetamines ■ LSD ■ MDMA (Ecstasy) ■ Cannabis
<p>Where drugs fall in the matrix above is determined by culture and law. Many providers often recognize use and abuse potential for the first three boxes, but see only abuse potential for the last.</p>	

Perceptions of substance users have contributed to a false image of a substance user, having consequences on substance users’ care and reinforcing the need to contrast false perceptions with reality.

The image of a substance user

In the context of public hospitals, “substance user” often comes to represent the even more specific subgroup of users who account for

the greatest number of New York City's emergency department episodes: non-Caucasian crack/cocaine or heroin users. Frequently, these patients are also alcohol and/or marijuana users, and may be dually diagnosed with mental illness. Physicians form negative impressions of these patients early: some 78% of Columbia University medical students surveyed stated that they strongly disliked and would avoid intravenous drug-using patients¹⁸.

The consequences to care of erroneous perceptions

Even the suspicion of substance abuse, or assumptions about drug use and race, may be sufficient to impact health delivery. One study, for example, found oncologists less likely to provide pain medication when working in inner-city clinics; another found that African-American and Hispanic patients admitted to emergency rooms received less pain medication than Caucasian patients admitted for the same conditions.¹⁹

While the image of the chaotic African-American or Hispanic drug user may be the most visible, it does not capture the reality of all heroin or cocaine users. Physicians draw their conceptions about substance users from the same sources as others in the general population—personal experience, professional training and commonly held beliefs.²⁰ While studies show physicians to be as likely as anyone else to have had family or personal experience of alcohol or drug abuse,²¹—and while that may have been emotionally formative experience—there is little medical utility in generalizing from that experience to substance abusers as a whole.

Contrasting false perceptions with reality

Conventional medical training may do little to increase familiarity with the range of substance users: while 1/3 of medical schools surveyed in 1992 required separate courses in nutrition, biostatistics, and ethics, only 8% had similar required courses on substance use.²² Given the lack of

supervising physicians experienced in substance abuse issues,²³ many physicians must draw in large part on conventional wisdom in their work with active users. It is useful, then, to contrast powerful and prevalent stereotypes (see Table 2) about substance users with more accurate views.

Table 2. Misconceptions about active substance users

“Planet Heroin.”

Common representations of substance users, particularly addicted users, seem to suggest there is something about the gravitational pull of the substance that draws people in so completely that their individuality or agency disappears. For someone on the drug, it’s as though he or she is on another planet—unreachable, alien, remote.²⁴

“An addict stays the same or gets worse.”

When someone demonstrates evidence of chaotic behavior related to drug use, it is assumed that both intensity of use and the user’s relationship to the substance(s) in question are constant or become progressively more debilitating.

“Drug use is the root of their problems.”

This view attributes a range of patients’ problems (e.g., from depression, failure to meet appointments, inadequate adherence, unstable housing) to drug use.

“It’s their choice, and their fault.”

This most common view holds that substance use is volitional, and that users cannot be helped until they choose to stop. If a patient really wanted to be healthy, he or she wouldn’t use drugs.

“One man, one drug.”

Accounts of addiction often focus on male substance users and their dependency on an individual drug, whether alcohol, cocaine, or heroin.

Beyond Stereotypes: Realities of Crack/Cocaine and Heroin Use

Some realities about substance users are that:

- Users of illicit drugs fall along a continuum of use,
- Substance use may be an expression of a problem rather than its cause,
- Addiction is cyclic and variable in intensity,
- Ongoing substance use is rarely a simple question of choice, and
- Substance use frequently involves more than one drug and more than one person.

Crack/cocaine and heroin users fall along a continuum of use.

Users of illicit drugs—like users of alcohol—fall along a continuum of use and abuse that includes people who are experimenters, situational users, periodic users, bingeing users, and addicted users.²⁵ Analysis of large epidemiological surveys indicates that more than ten times as many people have used heroin, for example, as have developed dependence.²⁶ Functionality of users—including those who are addicted—also falls along a continuum. Some addicts are able to maintain work or parenting duties, personal appearances, and engagements with medical care.

Substance use may be an expression of a problem rather than its cause.

Rather than the cause of erratic or unhealthy behavior, substance use may be an adaptive mechanism or best solution to a range of problems including depression, abusive partner, homelessness, sexual abuse, poverty, or other difficulties.²⁷ A survey of crack-using women in New York, for example, found that nearly 1/3 had a past history of abuse and prior hospitalization for mental illness.²⁸ In another, women who were HIV positive, were homeless in the last year, and had experienced combined physical and sexual abuse were also those most likely to report exchanging sex for drugs and money, using injection drugs in

the past year, and having sex in crack houses.²⁹ Instability or incapacity may also result from social sanctions against the drug user rather than the drug use itself. Incarceration or release from incarceration, for example—a common experience for substance users, who make up the majority of prisoners in New York jails—may result in disruption of care or other support systems.³⁰

Addiction is cyclic and variable in intensity.

While some addicts may follow the pattern, made familiar by alcoholism, of chronic, progressive illness, others may have periods of intense drug use and dysfunction followed by long periods of being drug free (or vice versa).³¹ Cocaine use, for example, is frequently characterized by periods of abstinence and bingeing, while a heroin user may maintain a constant daily dose for years.

Ongoing substance use is rarely a simple question of choice.

Much as with people in abusive relationships or those with compulsive disorders, “choice” for substance users is shaped by perceptions of self-efficacy, mental health status, and social conditions. Additionally, chemical dependency—like hypertension, asthma, or diabetes—is a chronic, relapsing condition whose etiology frequently includes a combination of behavioral, genetic, and environmental factors. As with substance users, only a minority of diabetics or hypertensives successfully abstain from behaviors contributive to these conditions, yet these patients are not stigmatized, blamed for their condition, or denied health services.³²

Substance use frequently involves more than one drug and more than one person.

While users may have a “primary” drug of choice, polysubstance use that includes some combination of alcohol, marijuana, crack and/or heroin is the norm rather than the exception. One study, for example,

found that all those hospitalized for drug-related conditions also had alcohol dependency.³³ Use, however, is rarely indiscriminate: just as cigarette smokers are brand loyal, users frequently have combinations of drugs they use regularly, and others they do not.

Patterns and intensity of drug use are often shaped by particular relationships or social networks, rather than by individual character. Repeated studies of women and crack or heroin use have found that women frequently begin using with a spouse or sexual partner, and that relationships strongly impact on decisions to continue using.³⁴ Users who inject crack—a practice emerging in New York and other North American cities—are more likely to do so with injection partners, and in communal settings.³⁵ Several studies of injectors suggest that environment and characteristics of social networks may affect both needle-sharing patterns and related risks for HIV and hepatitis C.³⁶

Improved Communication Between Substance Users and Health Providers

“Sometimes you ask someone a question about their drug use, and you hit a brick wall. They answer, but you can see they don’t trust you. And truthfully, you don’t know what has just happened to them before or with other doctors or out in the waiting room. If you can demonstrate to them that you mean them no harm and are there to give them the best care you can, sometimes...they relax a little; you can see it in their face. Their body relaxes.”

—Emergency room physician

Given the prevalence of substance use, its variability in terms of practices and risk, and its potential impact on health, effective communication between providers and substance users is essential. Specifically, providers should neither avoid questions of substance use nor limit discussion to the benefits of abstinence.

Barriers to communication

Improved communication may seem a luxury for staff or patients interacting in settings providing health care to low-income populations. Physicians are frequently required to see large numbers of unfamiliar patients in rapid succession.³⁷ Structural barriers—such as overcrowded clinics, protocols requiring certain responses to positive toxicology, and lack of staff with addiction expertise—may further impact physician/patient interaction. These conditions may be especially difficult for active users, who are more likely than others to be experiencing symptoms of withdrawal, more likely to present with acute or emergent conditions related to a behavior that they feel they should conceal, and less likely to have the skills required to negotiate complex systems or tolerate frustration.³⁸

Benefits of improved communication

Even brief interactions by non-substance-abuse specialists can be helpful in building motivation for change. Primary care providers may have the earliest and sometimes only access to substance-using individuals not seeking drug treatment. Research suggests that informal conversations during routine procedures can offer concrete risk reduction strategies and help motivate patients who are not yet interested in formal substance abuse counseling.³⁹

Enhanced communication—even in the highly limited time available to physicians in many health care settings—is of great benefit to both the substance-using patient and the physician.

- *For substance users, interaction with a physician may be the most important feature of care*

A study of crack and heroin users found that it was quality of interaction that most defined their attitude toward care received.⁴⁰ This

is supported by other research that suggests that low-income patients desire the same level of information as better-educated and higher-income patients, and place special emphasis on the interpersonal interaction with their physician.⁴¹

- *For physicians, enhanced communication offers information critical to appropriate care.*

Moving beyond evidence of substance abuse to brief conversation with the user can help physicians deliver more effective diagnosis, treatment, and preventative interventions (see “Techniques for enhanced communication”). Specifically, interactions can help physicians assess the:

- Combination of substances used,
- Patterns of use and attendant risks, and
- Patient’s capacity or lack of capacity to address health issues.

Advantages of enhanced communication about past/present history of substance use

- *Accurate diagnosis*

Symptoms caused by substance use or lack of access to substances (e.g., cocaine-induced hypertension, depression following detoxification) may be mistaken for or mask other conditions.

- *Increased likelihood of adherence/compliance with prescribed regimens*

Knowing patterns of drug use can help physicians better assess suitability of therapy. Physicians are less likely to prescribe HAART to active or former drug users, for example, even as studies show that compliance among active substance users may depend on substance used and social supports.

- ***Effective treatment or prevention of comorbidities associated with substance use***

Treatment or prevention interventions indicated may range from screening and/or vaccination for hepatitis A and B, monitoring of HCV, to syringe exchange or use of condoms with sexual partners.

- ***Avoiding contraindications or unintended adverse effects***

Administration of the common tuberculosis medication rifampin, for example, accelerates methadone metabolism and may induce detoxification symptoms. Beta-blockade can worsen chest pain and arrhythmias associated with cocaine.

- ***Appropriate pain management***

Physicians are reluctant to prescribe pain relief to those with demonstrated or suspected history of substance use, even though some substance users may require higher doses to achieve the same level of pain management as non-users (see chapter 6).

- ***Support for early efforts at sobriety***

Patient desire to abstain from all mood-altering substances, a common tenet of substance abuse recovery programs, may adversely affect patient adherence to prescribed medications whose effects or side-effects cause mood changes (e.g., Sustiva for HIV, psychotropic drugs for depression).⁴²

Techniques for Effective Communication with Substance Users

Substance users are not easy patients: physicians report that they experience them as argumentative, noncompliant, and manipulative.^{43,44} Additionally, physicians frequently feel pessimistic about their ability to change the patient's drug-using behavior, and so prefer not to engage the subject.⁴⁵ Rather than repeating unsatisfactory patterns, physicians may find it useful to "reframe" their idea of a successful outcome, and to recognize that their interaction with substance users, while crucial,

“A patient who had delivered a baby and been discharged returned the next day with belly pain. All the tests came up negative except a tox screen, which was presumptive positive. I was going to let her go home with her baby, but hospital policy said she had to stay overnight for another toxicology test. She got adamant. ‘I’m taking my baby home! Your test is wrong! How dare you call me a drug addict!’ I explained I wasn’t accusing her of anything, but it was hard for me to be patient and understanding when I’d been up all night and could barely follow my own sentences. It’s hard to be rational with someone who’s acting irrational no matter what you say.”

—Resident, perinatal clinic

is likely one of many incremental steps in the complex process that users undergo in moving toward behavior change.

Techniques for enhanced communication include:

- Emphasizing process over content,
- Avoiding conflict and defusing institutional transference,
- Helping patients to discuss past and present behavior, including drug use, without feeling judged, and
- Allowing patients to experience their own ambivalence.

Emphasizing process over content

It is often not realistic for physicians to expect patients to give up coping strategies, including substance use, before other coping mechanisms or supports are in place.^{46, 47} Rather than attempting to secure an agreement about behavior change from a substance-using patient, research suggests that physicians may wish to focus on the process of the interaction and the patient’s experience of it.⁴⁸ Specifically, physicians might ask if their encounter with the patient met three objectives:

- Did you establish rapport with the patient?
- Was the subject of drug use broached in a way that allowed the patient to reflect in some way on the patterns of his or her use and related health concerns?
- Was the door left open for future interactions that would allow the user to discuss drug use openly without fearing loss of status or stigmatization?

Avoiding conflict and defusing institutional transference

Drug users often enter an exam room bringing a history of negative experiences with institutions and authorities, from health providers to law enforcement to child welfare. An encounter with a substance user could be termed a success if the physician manages to deliver needed care and defuse the patient's expectation of disappointment, disrespect, or conflict. Even more than other patients, substance users appreciate physicians and staff who:

- Behave with respect,
- Listen to their concerns and ask them questions, and
- Share information.

Helping patients to discuss past and present behavior, including drug use, without feeling judged

Users frequently perceive a negative change in the attitudes of health care professionals once their substance use or associated history (incarceration, prostitution) is revealed. Often, they are scanning your questions and behavior for evidence that they are being judged. A low-key, respectful, and curious tone is helpful.

- Emphasize that you are not there to judge them but want instead to provide them with care and help them stay healthy, whatever they are doing.

- Ask open-ended questions, rather than those that elicit yes or no answers. If a patient has been incarcerated, for example, you might ask what was useful about the health care she received there and what wasn't. This kind of questioning is open-ended but is also directed, focusing the conversation and allowing you to gain insight into a patient's thinking.
- See if you can have an informal conversation about patterns of use and drug combinations in the course of examining or treating the patient. You might say, for example: "That's a nasty abscess. Can you tell me how often you inject there and how you clean your skin when you do?"

Allowing patients to experience their own ambivalence

People who are heavy users of drugs often feel two ways—ambivalent—about their behavior. This may be why many react strongly against being told that they should be concerned or stop using. Frequently, when you articulate the negatives associated with their drug use, patients focus on defending themselves or winning the argument rather than their own mixed feelings. It is often more useful to keep your opinions to yourself and draw the patient out.

- See if you can get patients to articulate, from their vantage point, some "pros" and "cons" of use (e.g., what they like about being "high" and what they don't like, where they like to use and where they don't).
- Ask them to "walk you through" a day of typical drug use or talk about changes in their use over time and how they feel about them.

Patient-Physician Scenarios

These scenarios offer a chance to walk through and analyze different patient-physician interactions.

Patient

Sheila, 25, presents in the emergency room with a burn on her hand. In response to your questions, she tells you the drugs she likes to use. She tells you: crack (to get high), barbiturates (to help her sleep), Valium (to calm her nerves), alcohol (when she is with friends), marijuana (to help her come down from crack). She says that she is not an addict. She knows what addicts are, but she “uses drugs occasionally and can stop when she wants.”

Analysis

This is a relatively successful encounter: Sheila has provided some descriptive information about her substance use and expressed clear feelings about being categorized as an addict. The treating physician who moves to label, diagnose, or resolve her substance use issues will likely produce resistance, rather than greater willingness to volunteer information or seek care.

Patient

Teddy, a 48-year-old insulin-dependent diabetic, presents with multiple medical problems, including track marks. He does not mention current drug use, but explains that he has been in recovery from heroin use for ten years.

Analysis

Teddy is likely highly ambivalent about his current heroin use. A physician who disputes his account of recovery, even through matter-of-fact acknowledgment of physical evidence or toxicology results, may provoke denials or failure to appear for follow-up. Alternatively, you might begin by acknowledging that relapse is not incompatible with recovery, saying: “I know that bouts of drug use are common for people in recovery, especially in stressful periods.” Once the patient sees that you are not challenging his claim to recovery, he may allow you to seek

further elaboration: “I’ve had other patients who have used drugs even while in recovery, and what I focus on is keeping them healthy. I wonder if you could tell me about an episode you’ve had: how long did it last; did you eat; were you able to take your insulin?” The physician can then focus on helping to maintain health and adherence to medication, leaving the discussion and definition of relapse to the patient and his AA sponsor or substance abuse counselor.

Patient

Robert is a 38-year-old Hispanic gay male who is HIV positive and also uses cocaine. His viral load is high, and evidence suggests that he is inconsistent in taking his HIV medications. Furthermore, Robert has heart problems apparently exacerbated by cocaine use. He reports feeling disillusioned and hopeless about his drug use and expresses desire to go into treatment.

Analysis

Expression of concern about substance use—recognition of the problem or intention to change—may indicate an important shift in thinking. Much as you would probe a patient’s off-hand mention of suicide to ascertain the degree to which the thought was developed, it can be useful to explore how strong a substance-using patient’s interest is in change.

If patients seems ready to take that next step, it is crucial to connect them with a social worker or counselor, avoiding any break in the human chain that might cause users to lose their resolve. When people in recovery are later asked what made the difference, they often give the names of people who saw something in them that they didn’t quite see in themselves.

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CHAPTER 2: BARRIERS TO CARE

Sandra Ramos, Ph.D.

THE NEW YORK ACADEMY OF MEDICINE

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Introduction

Providing access to care for the estimated 44 million uninsured in America has been a major challenge to both national and state governments.¹ In New York alone, there are an estimated 3.1 million uninsured.² Despite a number of initiatives to address the health care needs of this population a large number remain unable to access health care services. Access to care becomes even more complex, if the patient is poor and is also an active substance user. There are approximately 160,000 illicit drug users in New York City;³ how many of them are uninsured is not known. Substance users must adhere to stringent requirements to maintain coverage and cannot always do so. For them, being insured is a tenuous status that can change at any time thereby affecting their ability to access care.

The lack of insurance is only one of many barriers that poor, active substance users encounter in accessing the health care system. There are a number of economic, geographic and cultural obstacles that active substance users also face. While there have been efforts to remove some of these external barriers by providing special programs, and enhancing service delivery, internal barriers are harder to address. Many of these barriers such as negative beliefs about and attitudes toward active substance users are ingrained social and cultural values that are expressed at both the individual and systemic level through stigmatization of the active substance user. Many active substance users are dealing not only with the physical and social issues surrounding their drug use, but are also struggling to cope with addressing life's competing demands such as food, shelter, and care of family. The additional task of seeking and utilizing health care services might be insurmountable or of a lesser priority⁴ for this marginalized group, particularly in a barrier-laden environment.

Barriers to Care

This chapter highlights some of the barriers that active substance users may experience in accessing health services:

- Economic Limitations
- Geographic Limitations
- Lack of integrated services
- Cultural Differences
- Lack of Patient-Physician Communication
- Stigmatization
- Lack of trust, respect and confidentiality

Economic Limitations

The active substance user is likely to be poor, unemployed and without private health insurance.

Government-sponsored income support issues

People with low or no income are often dependent on government-sponsored income support programs for financial assistance. However, many of these programs' requirements make it difficult for poor people, particularly active substance users, to obtain financial support. The new Welfare Reform Act passed in the late 1990's has made eligibility requirements for financial support more stringent and medical coverage and its concomitant sanctions for violations more severe. Patients whose disability is determined to be drug addiction are ineligible for Supplemental Security Income (SSI), thereby affecting their income support.⁵ As a result of these new policies, many active substance users become more destitute, without access to health coverage or support services.

Government-sponsored health insurance issues

Active substance users covered by Medicaid or Medicare, may find maintaining eligibility to these government-sponsored health programs

“If the patient is on Medicaid, the patient is not viewed as desirable. Hospitals often segregate these patients: I’ve had a hospital [clinic] tell me ‘send me those patients on Friday and I will get them in and out’.”

—A physician

difficult as well. For example, applicants may be required to take drug tests, and if they refuse, they may be denied coverage. Similarly, if a substance user who was mandated for treatment fails to complete his/her treatment regimen, his/her Medicaid benefits would be suspended. These actions result in the active substance user being uninsured and unable to access needed services.⁶ Many Medicaid/Medicare beneficiaries are enrolled in managed care plans, but for substance users, the behavioral and mental health components of these plans are often inadequate and offer limited drug treatment benefits.⁷ Active substance users rarely have the financial resources to supplement additional services.

In fact, having Medicaid does not guarantee access to care. Some healthcare providers will not accept government-sponsored health insurance for their services. This practice not only affects access to care for the active substance user, but poor people as well.⁸ One physician noted: **“The subspecialty services at the hospital will not accept our Medicaid patients requiring that they be sent off site for those services; this often leads to a loss to follow-up.”⁹**

Another physician stated, “If the patient is on Medicaid, the patient is not viewed as desirable. Hospitals often segregate these patients: I’ve had a hospital [clinic] tell me ‘send me those patients on Friday and I will get them in and out’.”¹⁰

Employment issues

Employment, which is the primary pathway for accessing employer-sponsored health coverage, may be unavailable to the active substance user. The chronic and relapsing nature of addiction¹¹ may make it impossible for the active user to maintain steady employment. Some active users who use drugs intermittently are able to work. Opioid dependent patients who are in methadone maintenance programs to curb the craving for heroin, and stabilize their lives may still be able to work.¹² However, the attendance requirements for treatment may make it impossible for the substance user to maintain steady employment. Patients often have to go several times per week to pick up their methadone.¹³

The active substance user is usually employed in a part-time, low-paying service job that does not provide insurance coverage. In 1996 in New York, 52 percent of full-time, full-year workers with incomes below the poverty level were uninsured.¹⁴ These workers' low wages do not cover their basic needs for food and shelter or the additional out-of-pocket cost for self-insurance. Their access to medical or treatment services becomes limited.

Practice Notes

- Substance use is not always a disabling condition. There are patients who are active users who are employed.

- When treating an uninsured active substance user, the physician should refer the patient to the Social Work or Social Services Department within their institution where he/she can be assisted in obtaining coverage. If such resources are unavailable, the Resource Guide in the Appendix can be used for possible referrals.

Geographic Limitations

Lack of health care facilities in their immediate neighborhood often requires travel to access services.

Many poor people in New York City, including active substance users, typically live in poorly serviced urban neighborhoods. Poor housing stock, residential overcrowding, high unemployment and crime are some of the conditions that grip these neighborhoods.¹⁵ These deplorable conditions often exacerbate existing medical and social

“Well, I went to [Hospital C] about 2 weeks ago and sat in the emergency room for 6 hours. A car ran over my foot, and after I got triaged, I was left there for hours, so I walked out...”¹⁷

—A User

problems such as mental illness and drug use. People who live in these areas and need health services must travel to get to the nearest health facility. They may have to wait an inordinate amount of time to be seen by a physician because of the low physician-population ratios in their own neighborhoods or because physicians refuse to

accept Medicaid in their areas.¹⁶ These situations, while challenging for the urban poor, may prove even more difficult for the active substance user.

Practice Notes

- Policies need to be implemented that augment reimbursement for services to Medicaid patients to encourage more practitioners to service this population.
- Co-locating services for active substance users in existing neighborhood clinics may increase the availability of services to this population in underserved areas. Expanding clinic hours (e.g. evenings and weekend) and offering flexible appointment schedules may ease some of the waiting time burden patients often experience.

Lack of Integrated Services

The ability to obtain medical services in one location improves access.

The need for a holistic approach

The highly specialized system of medical care in our society fails to encourage a holistic approach to medical services. As a result patients often have to go to different clinics for care, depending on their medical needs. Travelling to different sites may be particularly difficult for patients who have children or family members that they care for.

Active substance users typically have co-morbid conditions such as diabetes, hypertension and/or mental illness requiring treatment by different clinicians.¹⁹ Patients may need to go to one site for their drug treatment, another for their medical care and yet another for their mental health and social services. Obtaining care from different practitioners can result in a lack of continuity of care which may also affect quality of care.¹⁹

A physician in a methadone clinic noted, ***“Patients have their own agenda. They don’t want to go to many places. They avoid big centers... You can’t send them somewhere where they’ll get an appointment in one month. It is important to have [all] these services available where they go—at the methadone clinic, at the doctor’s office. It makes a huge difference.”***²⁰

A physician in an HIV/AIDS clinic shared, “Having a multidisciplinary team approach helps. They [substance user] see that there’s a whole team of people that care about their survival. This can get through to them.”²¹

The lack of integrated services that address both the medical and social service needs of the active substance user may pose a barrier to the patient receiving necessary care. Inadequate integration of services

can also become a disincentive to accessing care. It has been shown that linking all of the substance user's service needs is beneficial not only for the active user, but also for the various practitioners involved in his/her care.²²

Practice Notes

- Create multidisciplinary teams to provide services to active substance users. This approach would enhance their access to care. Patients would receive all of their needed services in one location, and practitioners could share information and expertise across various disciplines.

Cultural Differences

Understanding and sensitivity to the patient's beliefs and traditions helps in the therapeutic relationship.

African-American and Latino communities

Entry into the health care system is only the beginning of the patient's experience in accessing medical care. In addition to language barriers, there are cultural practices and beliefs that may affect the manner in which the patient relates to the health care provider, and the way the provider relates to the patient. Similarly, the patient's religious beliefs (or lack of) may affect how they approach their medical problems and accept their life condition. It is not uncommon for a patient in the African-American or Latino community to consult a "spiritualist" or "curandero" for assistance and advice on addressing his/her illness. They may be following traditional and conventional medical practices simultaneously.

Being an active substance user does not mean that the individual loses

the core values of his/her culture. Depending on the location of the medical facility, physicians may provide treatment for patients who are different from them. It is important for the clinician to both understand and show sensitivity to the cultural beliefs and traditions that may frame the manner in which the patient relates to others, and specifically towards the physician. Studies have shown that in African-American²³ and Latino communities,²⁴ although they are not monolithic, there are core values that most people embrace.

In African-American communities these core values are:

- **Respect** – the respect of others from parents and relatives to elders or leaders in the community
- **Responsibility** – being accountable for self and for those less fortunate in one’s own extended family and even one’s community
- **Reciprocity** – giving back to family and community in return for what has been given to one
- **Restraint** – giving due consideration to the family or community/group when making decisions
- **Reverence** – deep awe and respect, firstly toward God, the ancestors as well as for many things in nature
- **Reason** – taking a reasoned approach to the settling of disputes within the family or the community
- **Reconciliation** – the art of settling differences, that is, putting a matter to rest between two parties.

In Latino communities these core values are:

- **Familismo** – the importance of the family to the individual
- **Colectivismo** – the importance of friends and extended family members

- **Personalismo** – the preference to be with other persons of the same ethnic group
- **Respeto** – the act of upholding one’s own integrity without damaging another person

The changing demographics in urban areas will require institutions to develop training in cultural competency and sensitivity for their health practitioners to better serve patients in these communities. Health care systems will need to move beyond token expressions of cultural understanding to the institutionalization of practices that create a welcoming environment for diverse groups.

It will not always be possible for physicians to be of the same race/ethnicity as their patients, but having physicians who feel comfortable working with people of diverse cultural background often helps. Showing a genuine interest in understanding differences in cultural beliefs, attitudes and practices towards health demonstrates respect for the individual’s values, and helps to establish a good therapeutic relationship.

Practice Notes

When obtaining the medical history of patients, physicians should ask social and cultural related questions. Physician should:

- Consider a more holistic approach to their history taking (e.g. ask individual, family, and community related questions)
- Inquire about patient’s cultural and religious beliefs regarding health
- Ask about alternative medicines or practices the patient may be utilizing

Patient–Physician Communication

Once the substance-using patient has accessed the health care system, the initial contact between the physician and his/her patients can be an ideal opportunity to establish a therapeutic relationship.²⁵ A physician's behavior and communication with his/her patient are important components of the medical encounter that can lead to "partnership building." Patient's often report more satisfaction with physicians who engage them in conversation, who give them more information, and who encourage their participation in their care.²⁶ However, studies have shown that, socioeconomic status²⁷, race/ethnicity and patient's appearance^{28,29} often influence physician's behavior in the clinic interaction with physicians offering to explain more, or be more empathic with middle-class, white, female patients.

"They [substance user] need individualized attention at the beginning. They are very fragile and easily rejected. They require a special engagement process..."

—A primary care physician

The doctor at a primary care clinic shared the following: They [substance user] need individualized attention at the beginning. They are very fragile and easily rejected. They require a special engagement process...Doctors become rigid with these patients—they may give them less information and get into an antagonistic relationship with them. The primary care provider should have a better understanding and should listen more. If the provider is straightforward, the substance abuser will listen."

During the encounter with a patient, physicians will often ask about behaviors that may be contributing to the medical complaint. The stigma associated with drug use, particularly if the patient is actively using, may make the patient feel very vulnerable. The patient may hide the

fact that he/she is using to avoid any judgmental reaction from the clinician. On the other hand, if the patient divulges his/her drug use and the physician admonishes him/her this is likely to stir feelings of guilt and shame in the patient resulting in the patient not returning for care.³⁰

Physicians who have had experience treating active substance users have stressed the importance that communication and withholding judgement has on patients.

“Rapport is the most powerful thing. The art of listening is so important. Ask open-ended questions, pay attention to cues, don’t rush patient through. Its not what’s in the physical exam, it’s what you learn from their history that’s most important, and this takes time and rapport to truly discover.”

—A physician in a primary care clinic

The following comments from a physician working in a primary care clinic succinctly summarizes some practice notes and tips:

“Rapport is the most powerful thing. The art of listening is so important. Ask open-ended questions, pay attention to cues, don’t rush patient through. Its not what’s in the physical exam, it’s what you learn from their history that’s most

important, and this takes time and rapport to truly discover.”

Stigmatization

The stigma attached to illicit substance use is a major barrier to drug users accessing care.

Stigmatizing the substance user

The use of illicit drugs has never been favorably viewed in our society. Illicit drug use has been cited as the cause of increased crime and violence in our society with an economic cost close to \$110 billion

dollars.³¹ Diminishing public tolerance for the use of illegal drugs such as heroin and crack/cocaine coupled with the prevailing lack of understanding about the biological nature of addiction make it easier to ascribe blame to active substance users, and to avoid interacting with them.

A physician in a methadone clinic shared, "They [substance abusers] are not wanted. At times, they are refused care. I get into discussions of 'rights' with other doctors and administrators because they won't see my patients. There is a lot of prejudice."

"Substance users are shunned by many, and face barriers to getting care despite the fact that they [some] are not using any longer."

—A physician

Another physician noted, "Substance users are shunned by many, and face barriers to getting care despite the fact that they [some] are not using any longer."

The following are anecdotes from active substance users:

"The staff there was very condescending, like you would hear them say 'junkie' a lot under their breath. They always talked down to us too."

"How can they work with addicts when they got animosity towards us? ...why would they put these people there?"

"I have to be in so much pain or something that's threatening before I go to a doctor. It just isn't worth it, the way you are made to feel..."

Labeling is one way that meaning is attached to non-normative behaviors. People who use illicit drugs are often labeled "deviant", "antisocial". Stigmatization can be expressed both at the individual level, based on our value system and the language used to describe substance users, and also at the systemic level. Systemic examples could

be the lack of training on substance abuse in most medical schools. This omission may encourage physicians in training to view the care of substance users as not viable or rewarding work.³² Similarly, differences in reimbursement offered for the care of substance use treatment versus other medical care may send the message that this work is less important.

Stigmatizing physicians who work with substance users

Some of the physicians interviewed for this manual even expressed feelings of stigmatization from their colleagues for working with active substance users:

“Substance users are looked down on and they’re given attitude. I even get it when I call other physicians. They act like I must be a bad physician if I work in a methadone clinic.”

“There is a huge stigma among physicians that I didn’t realize until I tried to hire a physician to be a medical director...[he/she] did not want to be known as the medical director for our methadone unit.”

There is scientific evidence that addiction is a brain disease of a chronic and relapsing nature yet members of society continue to regard the active substance user with disdain. This negative attitude towards substance users results in feelings of rejection and alienation that keeps active substance users from accessing care and some physicians from caring for them.

In New York City, physicians will often encounter active substance users in their clinic practice who have a differing sexual orientation, or come from different socio-economic and cultural backgrounds than their own. Patients can often sense the clinician’s discomfort in treating them and this dis-ease may lead to unnecessary tensions between the physician and the patient. Often times substance users just want

to get healthcare that is not related to their substance abuse and the physicians over-identification with the patients drug using behavior may also pose a barrier in access to care.³³

A physician working in a methadone clinic noted, **“My feeling is that opiate dependence and my giving primary care isn’t contingent on their drug use.”**

A physician in a primary care clinic stated, **“No one is denied health-care because they are using drugs.”**

There are also many myths and misconceptions about substance users that add to the unnecessary stigmatization and disregard they experience during treatment.

Common misconceptions about substance users

- The active substance user “brought this problem upon themselves”
- Substance users can quit using drugs whenever they want to
- The substance-using patient will not be compliant with medical advice

Practice Notes

- Avoid using language to describe substance users that will perpetuate the stigma
- Be objective, empathic, and non-judgmental
- Learn more about substance use and addiction
- Do not allow the patient’s drug use to restrain the provision of medical care
- Examine personal issues that cause discomfort around substance users

Lack of Trust, Respect and Confidentiality

Trust and respect are the cornerstones of a good provider–patient relationship.

In many communities of color there is a reluctance to trust. Historical and personal experiences have tempered the way many people of color view medical establishments' approach to providing care and conducting research. The Tuskegee Experiments, where treatment was withheld from Black men with syphilis,³⁴ and birth control and sterilization experiments conducted on Puerto Rican women in the 1950's^{35 36} are often cited as historical antecedents of this mistrust. Recent research showed that African-American and Latino patients had therapeutic treatment withheld from them and there were marked differences in prescribing patterns based on race. These factors have bolstered the continued suspicion many people of color have about health care institutions.^{37 38}

Developing trust is essential to fostering a long-term relationship. A physician in an HIV clinic shared the following regarding developing trust: **“If you meet their immediate need (e.g. filling out a form for entitlements) they will more likely return when they need care because they will trust the system...You have to show you care about ‘little things,’ very few systems will do that with good reason, but I think it’s important to do for the patient to establish trust in the relationship.”**

As one physician stated, **“you have to work with them. You have to believe and trust them even though at times you might not completely believe them.”**

The social role of the physician often commands respect. Patients are also deserving of respect despite their socioeconomic status.

Substance users are no different from other patients who want to be acknowledged by their name and addressed in a courteous manner during the clinic encounter.

“You have to work with them. You have to believe and trust them even though at times you might not completely believe them.”

—A physician

Patients sharing their positive experiences in the healthcare system said the following:

“In 1993, I use to see a doctor at the [Clinic A]. She was really good. She would explain everything to me and take the time to talk to me.”

“He [the doctor] comes in and he sees you, he speaks to you—he treats you like a human being, treats you civil. He asks about you like he cares and he does it to everybody.”

Patients need to be met “where they are,” with respect and openness. Establishing an honest and trusting relationship takes time and should begin with the physician’s initial contact with the patient. Many practitioners often expect the patient to be open and honest with them, but do not feel the need to reciprocate. Building trust is a two-way effort.

A physician in a methadone clinic shared the following, **“People are hardheaded and you have to remember it’s not your life. You have to give them [patient] control and realize that you can’t make people change. It is a challenge for doctors to figure out where people are at and then meeting them there.”**

A physician in an HIV clinic noted, **“Doctors need to feel in charge the whole time, and it’s not really a good attitude to have [all the time] sometimes you just have to go with it.”**

Confidentiality is a pre-requisite to establishing a good relationship between patient and physician. Physicians should not discuss information patients share with them unless the disclosing of this information is required to plan for their care. Active substance users are aware of the stigma attached to their drug use. Any evidence that their condition is being shared with others who, in turn, will further stigmatize them, will likely result in them not returning for care.

To develop a relationship with patients based on trust and respect physicians must:

- Be sensitive and empathic to patients' condition
- Reciprocate expectations of trust and honesty
- Treat all patients with dignity and respect
- Withhold personal moral judgments
- Maintain strict confidentiality

Conclusions

Addressing barriers to care may seem prohibitively expensive and time consuming to health care institutions and practitioners, particularly in the era of managed care where cost containment is a priority. In reality, whether a patient is an active substance user or not, it is impossible to deliver quality care if systemic and individual barriers to care are not addressed. The challenge for the primary care physician will be how to dismantle the barriers to care faced by their patients who are active substance users while adhering to the many restrictions imposed by the health care system.

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CHAPTER 3: DRUG TREATMENT AND HARM REDUCTION

Sharon Stancliff, MD
Medical Consultant

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Introduction

Substance abuse treatment is a field of medicine in which facts are sparse and opinions are plentiful. The fact that medical decisions are often made and/or constrained by those working in areas such as criminal justice, public assistance, and child welfare further complicates the issues. The purpose of this chapter is to assist the medical practitioner in understanding the options available to illicit substance users who present for care. Although many illicit substance users also report alcohol use, alcohol treatment is beyond the scope of this chapter. This chapter will focus on harm reduction and on treatments for heroin and cocaine abuse; it will also provide some information on the treatment of amphetamine and benzodiazepine abuse. Pharmacotherapies and psychosocial approaches will be discussed.

When assessing a patient's substance use, the interaction may be enhanced by an approach informed by harm reduction. That is, by asking oneself, "What is the most immediate, realistic option to prevent harm or promote wellness for this patient?" Response examples include education, access to syringes, referral to housing or food, or drug treatment.

For those seeking drug treatment, it is important to be aware that, while a variety of settings and modalities are available for patients seeking drug treatment, there are no well-documented guidelines for matching patients to medical and/or psychosocial treatments. It may be helpful, however, to have a basic understanding of substance use treatments that are available and the activities that can be expected in each setting. This information can help providers better understand what patients may experience and better assist patients in choosing treatment settings that fit with their needs.

Background

Substance use is not a new problem, but rather a long-standing social issue. Recent changes in medical policy have come about as we become more aware of the genetic and biological basis for addiction and treatment.

The historical context of substance use

Until early in the 20th century, opioids (including heroin) and other drugs (including cocaine) were easily obtained from doctors or purchased over the counter. In the late 1800's, the opioid-dependent person was most often a middle-class woman. As the addictive properties of these medications became known, their use declined significantly among this population. During this decline, less integrated groups, such as working class immigrants and minorities, began to use opioids recreationally, promoting stigma as well as regulation.

Laws regulating drug use have proliferated since that time, most notably in the Harrison Act of 1914. Prescription of opioids for purposes of maintaining an addiction was outlawed in 1919, resulting in the imprisonment of many physicians. Addicts (primarily dependent on opioids) were imprisoned, offered detoxification and other, often dangerous, interventions such as electroshock, lobotomy, and sterilization. The relapse rates for the serious opioid addict were as high as 90%. Observing this relapse rate, Vincent Dole, MD and Marie Nyswander, MD hypothesized that heroin addiction was a metabolic disorder and proposed maintenance treatment in the mid 1960s.¹

The Biological Basis of Addiction

Emerging understanding of physiology and genetics suggests that individuals may be born with a predisposition to a disorder of the endogenous opioid system. The use of opioids and, very possibly, other envi-

ronmental influences may then induce expression of the disorder. Therefore, opioid agonist treatment may be understood as replacement therapy, similar to the use of insulin in Type 2 Diabetes Mellitus.

Some effects of opioids

Heroin and other opioids interact with receptors that are also the sites of action for endogenous opioid peptides, primarily the beta-endorphins. These receptors are found throughout the body, but are concentrated in the central nervous system. While the analgesic effects of opioids are believed to be mediated in the thalamus, much addiction research has focused on the “reward pathway” of the mesolimbic system. A dopamine pathway involving sites including the *ventral-tegmental* area appears to mediate the rewards of vital activities such as eating and sex. *Endogenous opioids* mediate this pathway, which is in keeping with the observation that the drive to administer exogenous opioids can become as intense as basic life drives.

The physiology of withdrawal

The physiological bases for acute withdrawal are not fully elucidated, but changes observed following chronic opioid administration include physical atrophy of dopamine-producing neurons in the ventral-tegmental area. This shrinkage may be one reason why opioid users require increasing amounts of opioids in order to induce the euphoric effects. It is theorized that these and other long-term changes may lead to the *anhedonia* many opioid users experience with other previously pleasurable activities and may also explain why long term abstinence is so difficult for many opioid users.²

The role of genetics in addiction

Genetics also has a role in the development of addiction. Studies of twins and adoption strongly suggest that high rates of alcoholism in some families have a genetic basis. While this connection is less well

elucidated for other drugs, it is clear that addictive disorders are common in the families of heroin addicts.³

Pharmacotherapy for Opioid Addiction

Opioid addiction can be treated in a variety of ways: with three types of medication—agonist, partial agonist, and antagonist, and through other modalities such as detoxification, Ultra Rapid Opioid Detoxification, and Clonidine (Table 1).

Table 1: Treatments for Opioid Addiction

Medication	Other modalities
<ul style="list-style-type: none"> ■ Agonist ■ Partial agonist ■ Antagonist 	<ul style="list-style-type: none"> ■ Psychosocial treatments (as reviewed in the section on cocaine) ■ Detoxification, <ul style="list-style-type: none"> ■ <i>Methadone taper</i> ■ <i>Ultra Rapid Opioid Detoxification</i> ■ <i>Clonidine</i>

Agonist Treatment For Opioid Addiction

In 1997, a National Institutes of Health Consensus Development Conference concluded that opioid agonist treatment, primarily methadone maintenance (MM), is a highly effective treatment for heroin addiction. In 1998, the federal General Accounting Office (GAO) report found that methadone maintenance is the most effective treatment for heroin addiction.

Methadone maintenance (MM)

Methadone is a synthetic, orally administered opioid that is usually effective with once-daily dosing. Methadone is treatment for heroin

Goals of methadone maintenance

- **Prevent symptoms of opioid withdrawal.**
- **Eliminate the craving for heroin.**
- **Block the effects of heroin if it is taken.**

addiction, but has no pharmacological effect on misuse of—or addiction to—cocaine, benzodiazepines or alcohol.

Methadone maintenance is sometimes criticized for the fact that some patients continue to use drugs. However, it is known that methadone maintenance is associated with

decreased HIV risk behaviors, seroconversion,⁴ and overdose.⁵

Efficacy

The majority of patients will stop using heroin if given a high enough dose of methadone.⁶ However, even at doses that may not extinguish heroin addiction, there are a number of benefits to treating patients addicted to opiates with methadone:

- Morbidity and mortality are significantly reduced.^{5, 7}
- People on methadone maintenance (MM) are 3-6 times less likely to become HIV infected than their untreated counterparts, even if they continue to use drugs.⁴
- Methadone patients who continue to use illicit drugs report less frequent injection, less needle sharing, and less risky sexual behavior.⁴
- Reductions in HIV seroconversion are more pronounced at higher doses (Hartel).
- HIV positive persons with a history of heroin addiction in MM are less likely to be hospitalized than their out-of-treatment counterparts.⁸
- Hepatitis C is no contraindication to methadone maintenance.⁹
- People on MM are significantly less likely to die of a drug overdose, probably because of the effect of tolerance.¹⁰

Safety

There are many misconceptions about the safety of methadone that are held both by physicians and patients (Table 2). No long-term harmful sequelae are associated with methadone treatment.¹¹ The most common side effects of chronic opioid administration are constipation and increased sweating. While an occasional patient may have an unusual metabolism, studies have documented a lack of sedation among methadone patients who have developed tolerance.¹² In fact, patients work in a wide range of employment settings, further documenting that sedation is not an issue.¹³

For information on interactions between HIV-related medications and methadone, please see Chapter 8 of this manual.

Dose

Methadone is initiated at 30-40 mg and gradually increased until the patient reports clinical comfort and the urine screens are free of other opioids. The majority of studies suggest that most patients require 80-120 mg of methadone in order to stop using and craving heroin. However, some patients respond to lower doses and a sizable minority require much higher doses.¹⁶

Unfortunately, many providers and patients believe that low doses are effective and/or “better.” A 1995 study of selected Methadone Maintenance Treatment Programs (MMTPs) in the United States found that 66% of the clinics limited dosage to 80-100mg.¹⁷ In contrast, New York State has a federal waiver allowing prescription of whatever dose the patient and provider deem necessary.

Length of treatment

MM is long-term therapy. As is true with the heroin addict who discontinues heroin—with or without any other treatment—recidivism is the

Table 2. Misconceptions About Methadone

Misunderstanding	Truth
Methadone causes nodding or sedation.	<ul style="list-style-type: none">■ People who are stabilized on a proper dose of methadone are not sedated by it. (A small minority of patients needs smaller doses of methadone twice a day to avoid sedation.)■ One common occurrence may contribute to this misconception: patients who are misusing benzodiazepines often attribute the resulting sedation on the legally prescribed methadone.
Methadone gets in the bones and harms them.	<ul style="list-style-type: none">■ Methadone is not known to have any long-term adverse effects.¹¹■ Perhaps this belief results from under-dosing of methadone. Some patients awake every day with a complaint of achiness, which is relieved by their methadone. Often a slightly higher dose will relieve this mild withdrawal.
Methadone promotes the use of cocaine.	<ul style="list-style-type: none">■ People start using cocaine at many times in their lives, some while on methadone. But, as is shown in Table 2, people initiating methadone treatment for heroin addiction are more likely to stop using cocaine.

It is harder to get off methadone than heroin.

- With a proper taper one can stop taking methadone quite comfortably.¹⁴ When stopping abruptly, the withdrawal will be longer but milder as the half-life is longer. There is no rationale for stopping methadone prescribing abruptly.

Methadone will harm a fetus.

- It is safe during pregnancy and recommended instead of detoxification.¹⁵

rule rather than exception with patients who discontinue methadone.¹⁸ Methadone is a treatment, not a cure; nor can any other therapeutic intervention promise “cure.” Unfortunately, a majority of clinics surveyed in 1995 encouraged “tapering” after one year of treatment.¹⁹ Patients are often terminated from methadone for noncompliance with clinic policy, including continued use of illicit drugs or refusal to participate in counseling activities. Discharge and therapeutic abandonment for incomplete response to therapy is unheard of in other areas of medicine. Death rates for opioid-dependent patients who are not in treatment have been found to be much greater than those in treatment,^{4, 6} and termination of care can therefore be a death sentence.

The role of counseling

Like many patients with chronic illnesses, methadone-maintained patients might benefit from counseling to help them deal with their illness. However, MM is unique in that patients are required to receive

counseling as a condition for receiving their medication. Despite this requirement, the medical literature has no agreement on what aspects of counseling are helpful; thus, there is little uniformity in training or goals.²⁰ In addition, a trusting relationship between the patient and counselor is often difficult to establish in the MMTP setting given the fact that patients may lose “privileges” or even entitlements if they report a relapse or engage in any illicit activity. Finally, clinics often hire counselors who believe that the ultimate goal of methadone treatment is to discontinue treatment.

Barriers To Methadone Maintenance

Some barriers to methadone maintenance treatment are limited physician access to methadone, limited pick-up schedules, and limited patient-physician trust.

Limited physician access

In the United States, physicians cannot prescribe methadone as main-

Medical maintenance

The provision of methadone on a monthly basis by selected primary care physicians is also available in several cities in New York for patients who have jobs and have been stable for several years.

tenance; instead they must refer their patients to strictly regulated MMTPs where methadone is administered under observation and urine is collected regularly to check for illicit drugs. Until recently, the majority of patients had to go to these clinics 5-6 days a week, and the abstinent, tax-paying patient could hope for weekly attendance only after several years. These

restrictions surely deterred many addicts from entering and continuing methadone treatment.

Limited pick up schedules

The new federal regulations regarding methadone allow for much more rapid advancement of pick-up schedules among stable patients (Federal

Register). New York State is still in the process of evaluating these regulations.

Limited patient-physician trust

Even in the best-intentioned clinic, the nature of the methadone clinic system can lead to conflict between patient and clinician.²¹ The onerous attendance schedule is a serious barrier. This schedule is not based upon a therapeutic intervention, but upon the prevention of diversion of methadone.

Monitoring ingestion of medication and reliance on urine toxicology contribute further to an environment of mistrust, as medical monitoring can be seen as casting doubt on the patient's honesty.

The methadone provider can require the patient to take the dose he or she feels is most appropriate without consulting with the patient's wishes. The patient is then either forced to take the recommended dose, which is administered under observation, or leave treatment. Many patients will leave treatment rather than accept the full blockade dosage mandated by many providers or tolerate the therapeutically inadequate dose prescribed by other providers. Patients may be reluctant to receive a blocking dose of methadone for a variety of reasons:

- Some wish to continue using heroin, and use methadone as a form of harm reduction.
- Some are afraid of involuntary detoxification—particularly when they are at risk of losing their benefits or of going to prison.
- Others want to leave methadone maintenance, frequently under pressure from family members or outside agencies.

Steps toward achieving patient-physician trust

Working with the patient is key to achieving a level of trust.

Some approaches for achieving trust

- Both primary care providers and methadone providers should educate the patient about methadone.
- Work with the patient to reduce the harms of continued drug use, regardless of response to treatment.
- Patients should have a role in setting the methadone dose and should always be aware of their dose. As a patient-requested dose reduction may be against medical advice, asking the patient to sign a form to that effect is appropriate.

Antagonist Treatment For Opioid Addiction

The antagonist Naltrexone is used to treat opioid addiction.

Naltrexone

Naltrexone is an opioid antagonist that is administered orally several days a week. It blocks the effect of heroin but does not have any effect on craving.

Efficacy

It has very low retention rates, although two small studies from 1985 are frequently cited to support the premise that highly motivated people may benefit from treatment. A Naltrexone implant whose effect lasts several weeks at a time is available, although not yet approved by the FDA. Use of this would ensure compliance with the medication, at least for the duration of the implant's action. It should be noted that the implant route has not proven effective in the treatment of alcoholism with antabuse.

Safety

Naltrexone's safety in the presence of liver disease has been questioned. Naltrexone also blocks the analgesic effects of opioid agonists. The oral form should be discontinued 72 hours prior to elective surgery. Unplanned surgery or trauma could lead to serious problems with pain management. Clearly, the implant would be far more problematic in respect to pain management.

Another serious concern is emerging: high death rates among Naltrexone patients. A study recently released to the press prior to publication found that death rates among Naltrexone patients were significantly higher than among untreated addicts, apparently due to poor retention followed by high rates of heroin overdose at relapse of no-longer-tolerant individuals.²² This is consistent with the understanding that overdose is more common after a period of abstinence,¹⁰ but it is also possible that Naltrexone sensitizes receptors. This issue might be circumvented by the implant; however, this author has concern about a medication that does not reduce the powerful craving experienced by opioid addicts, but blocks satisfaction for an extended period.

Other Replacement Therapies

Other opioid replacement therapies include:

- Levo-Alpha Acetyl Methadol (LAAM) and
- Buprenorphine.

Levo-Alpha Acetyl Methadol (LAAM)

LAAM is a long-acting derivative of methadone. Like methadone, LAAM is available only in MMTPs. The advantage of LAAM is that it needs to be taken only 3 times weekly; this allows less frequent clinic visits for patients who do not qualify for take-home doses. On the other hand, it will have an added regressive impact on those patients

already “permitted” less frequent attendance since LAAM may not be given for take-home.

Efficacy

LAAM is probably about as effective as methadone, though there may be lower retention rates.

Safety

LAAM’s side effect profile is the same as methadone’s with one possible exception. The FDA recently issued a “black box” warning about LAAM, and the possibility exists that it may prolong the QT interval and lead to Torsades de Pointes.²³ Until further investigations are complete, it is unlikely that large numbers of patients will initiate LAAM. In Europe, LAAM has been banned because of this apparent problem.

Buprenorphine

Buprenorphine is a semi-synthetic, mixed opiate agonist-antagonist, which is currently licensed only as an analgesic, but which is expected to be approved for maintenance therapy.

Efficacy

Buprenorphine is clearly efficacious for some patients; however, most studies have compared it to methadone doses that are not adequate for most patients.²⁴ Thus, it remains unclear how many patients will have optimal benefits.

Safety

The significance of its mixed agonist-antagonist character is that there is a ceiling effect. The likelihood of respiratory depression is lessened, and withdrawal symptoms are thought to be lessened if abruptly withdrawn. The Buprenorphine formulation pending approval is mixed with naloxone. Thus, if the medication is injected, the user will either experience withdrawal or an attenuated effect.

Dose

Buprenorphine is administered 2-32 mg. sublingually and may be given daily or up to every 3 days.

Projected role in treatment

Because of the increased safety profile and the reduced, but still present, abuse potential, it is expected that buprenorphine will be available for office-based prescribing.²⁵ This will be a major new tool in treating heroin addiction, though its efficacy compared to appropriate methadone dosing remains to be seen. The rationale for permitting buprenorphine for office-based treatment, while excluding methadone, is not completely clear.

Other Treatment Modalities for Opioid Addiction

Other treatment modalities include:

- Detoxification
 - Methadone taper
 - Ultra Rapid Opioid Detoxification
 - Clonidine
- Psychosocial treatments

Detoxification

With the exception of pregnant women, detoxification with an attempt at abstinence is generally the first step for individuals who want to end their dependence on heroin. While all people who repeatedly administer an opioid will become dependent, it is unclear who or how many will be able to maintain long-term abstinence. Withdrawal may be done “cold turkey” with self-administered medications or with medical assistance.

Methadone taper

Currently, licensed facilities offer a methadone “taper” to ease the withdrawal symptoms over the space of about 3-5 days for in patients, or over a much longer period of time for outpatients. There is only a fiscal—not pharmacological or empirical—rationale for the distinction.

Rapid Opioid Detoxification

In this procedure, withdrawal is hastened with intravenous administration of opioid antagonists while the patient is under various levels of sedation or anesthesia. The controversy surrounding this procedure is beyond the scope of this publication, but there is concern over the danger of anesthesia, particularly as there is no evidence that any particular method of withdrawal from heroin leads to greater likelihood of maintaining abstinence.²⁶

Clonidine

Clonidine, a centrally-acting alpha(2)-Adrenergic agonist, has also been used to ease withdrawal. While Clonidine is not easily tolerated, as it does not relieve all withdrawal symptoms and can cause significant hypotension, it is legal for any practitioner to prescribe clonidine for the purpose of withdrawal. The addition of naltrexone for several days may be helpful.²⁷

Psychosocial treatments

As reviewed in the section on cocaine.

Treating Cocaine Addiction

Assisting patients to stop or reduce the compulsive use of cocaine presents a major challenge, as there is little evidence for the efficacy of existing treatments. While many people reduce or stop cocaine use, no behavioral therapies have been shown to have any clear effect.

Compulsive cocaine users may experience difficulty with existing modalities or express reluctance to consider available treatment options.

Types of cocaine administration

Cocaine is commonly administered in one of three ways: sniffing, injecting, or smoking. The powder form, cocaine hydrochloride, may be sniffed (nasally insufflated) or injected intravenously, with the latter leading to a much more rapid and intense intoxication (often described as a “rush”). Cocaine hydrochloride may be converted into base “crack” and smoked, again producing a rapid, intense intoxication. It is important to understand that crack is simply a different preparation of cocaine.

Pharmacotherapy

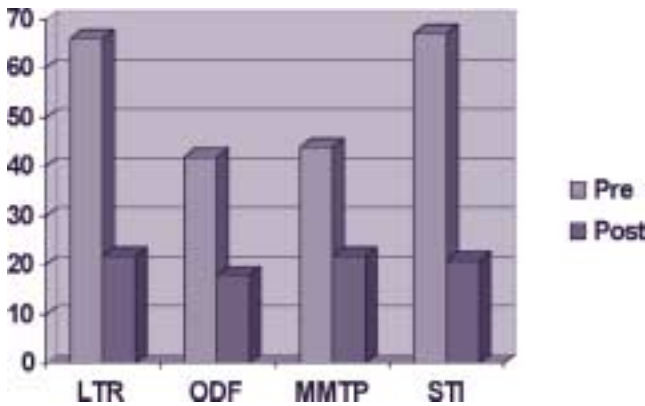
Despite numerous trials, no pharmacotherapy has yet been shown to attenuate use or reduce craving. Many agents, including antidepressants and anticonvulsants, have been tried in the treatment of cocaine addiction; however, none has proven effective.²⁸ This fact presents a major challenge, both to the user and the provider.

Psychosocial treatment

The extensive literature on psychosocial modalities supports only a few broad findings:

- Time spent in treatment correlates with reductions in cocaine use.^{28, 29, 30}
- Reductions in cocaine use appear to be independent of the modality used—even when the modality is not intended to address cocaine use, as in the case of methadone maintenance.^{31,32,33} (See Tables 3 and 4)

Table 3. Weekly Cocaine Use Before Treatment and At 12 Month Follow Up

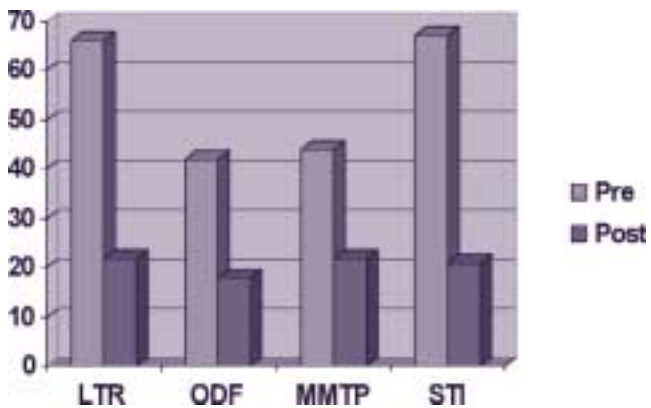


LTR: Long-term Residential
ODF: Outpatient Drug Free
MMTP: Methadone Maintenance Treatment Program
STI: Short Term Inpatient

Adapted from Hubbard, R. L., Craddock, S. G., Flynn, P. M., Anderson, J., & Etheridge, R. M. (1997). Overview of 1-year follow-up outcomes in the Drug Abuse Treatment Outcome Study (DATOS). *Addictive Behaviors*, 11(4), 261-278

- The natural history of compulsive cocaine use is not well understood. A significant number of people may achieve remissions without undergoing formal treatment.
- It is unclear whether any causal relationship exists between a particular modality and a desired outcome. Additional outcome studies are expected from Drug Abuse Treatment Outcome Studies (DATOS) during 2001.

Table 4. Daily Cocaine Use in Past Year: Changes from Before to After Treatment



LTR: Long-term Residential
 ODF: Outpatient Drug Free
 STI: Short Term Inpatient
 MMTP: (Data Not Available)

Source: Simpson, Joe, Fletcher, Hubbard, & Anglin, 1999 Arch Gen Psy

Daily Cocaine Use in Past Year: Changes from Before to After Treatment

The purpose of discussing findings on psychosocial modalities in treating cocaine use is not to discourage providers from assisting patients who use cocaine and wish to stop, but rather to give an honest view of what can be expected from treatment. While many people appear to reduce or stop the use of cocaine for long periods of time, little is known about how to assist an individual patient. In this case it is not the "patient who fails the treatment," but "the treatment that fails the patient."

Vaccines

Vaccines to block the effects of cocaine are under investigation; however, none is close to use in clinical practice.³⁴

Treating Methamphetamine Addiction

Currently, there is very little literature on the course of methamphetamine abuse and addiction—or the outcomes of treatment. Thus far, its treatment is generally like that of cocaine.³⁵ The Methamphetamine Treatment Project is an initiative to study the treatment of methamphetamine dependence, but little data have been released thus far.

Treating Benzodiazepine Addiction

Benzodiazepines are commonly prescribed drugs which are often taken by people who use illicit drugs and alcohol. They may be used to enhance the effect of other sedatives, to attenuate the effect of stimulants, to reduce symptoms of withdrawal, and to relieve anxiety. Dependence may develop from street use, iatrogenically, or both. Withdrawal syndrome includes anxiety, depressed mood, sleep disturbances, hypersensitivity to touch, tremor, paranoid reaction and, among a minority of users, seizures. Detoxification is usually accomplished by a taper, which can be accelerated in the inpatient setting, or it can be accomplished gradually in an outpatient setting.³⁶ There is very little data on rates of abstinence following withdrawal. It has been suggested that there is a prolonged abstinence syndrome, but there is very little research on this as well.³⁷

Harm Reduction: A Treatment Option

Some would argue that harm reduction is not “drug treatment” and, therefore, has no place in this chapter. However, if treatment is consid-

ered to be an intervention that may preserve or improve health, then harm reduction is central to drug treatment. Harm reduction is unique as an orientation in treatment in its history, its goals, its tenets, its benefits, and its approach to education.

The goals of harm reduction

Most traditional substance abuse treatment operates from the premise that the primary goal for problematic drug users is abstinence from drugs. Harm reduction, in contrast, is an approach to drug use that puts the well being of the user and society above the goal of abstinence.

The tenets of harm reduction

While there is no universally accepted definition of harm reduction, its proponents generally accept several tenets:

- Psychoactive substance use is ubiquitous in human society, and sanctions against the use of particular drugs are driven more by cultural values than science.
- Drug users can be engaged in protecting their health and that of their communities.
- Many of the harms related to drug use are not due directly to the drug itself, but to other factors that are possible to ameliorate.

The benefits of harm reduction

Harm reduction recognizes that while abstinence is one means of reducing drug-related harm, a drug user's major concern may not be the cessation of drug use. Many other goals may take precedence, including safety, shelter, avoidance of withdrawal, or recreation.

Furthermore, little is known about why people use drugs compulsively even in the face of severe sanctions and acknowledged risks (as in the case of alcohol and nicotine). In any case, it is clear that patients can still benefit from medical interventions even though they continue to use drugs.^{38, 39, 40} It is also important to bear in mind that much drug and alcohol use is not out of control and does not reflect a “disease,” so “drug treatment” is not always indicated. However, education is often needed to prevent harm. Thus, harm reduction may benefit the health of recreational users, compulsive users, and the general public. For instance, the use of a designated driver when alcohol is consumed benefits the recreational drinker, the alcoholic, and teetotalers sharing the highway.

Harm reduction in historical perspective

The roots of harm reduction are often traced to innovations in drug policy in the Netherlands in the late 1970’s and early 1980’s.⁴¹ The first syringe exchange was initiated in 1984 by injection drug users in Holland responding to an outbreak of Hepatitis B. As the role of injection drug use in the spread of HIV became clear, harm reduction policies, including syringe exchange programs (SEPS), the expansion of methadone prescribing, and outreach were rapidly expanded in some parts of Europe. It has been argued that these policies are responsible for the low rates of HIV in much of the United Kingdom.

In contrast, the United States has been reluctant to develop these policies. However, in 1992, in New York State, the Commissioner of Health, under regulatory authority, granted waivers to some not-for-profit organizations to conduct syringe exchange programs within the context of a harm reduction model of HIV prevention. A demonstration project to sell syringes over the counter was initiated in 2001.

The role of education in harm reduction

Education is the backbone of harm reduction. When drug users are educated about the risks involved in drug use and are offered tools to reduce these risks, it is apparent that many alter their behavior. As noted above, drug users were the first to propose the establishment of syringe exchange. The incidence of both HIV⁴² and Hepatitis C (Alter) has dropped since universal precautions and education became widespread in the United States.

On the other hand, health care providers have educational needs as well:

- Learning the actual (as opposed to the purported) risks of particular substances
- Learning the means of reducing the risk associated with substance use
- Learning the available treatment options

Some of this information may be found in sources such as this manual. But in order to assist patients in integrating such knowledge into their lives, providers must also be willing to learn from their patients.

Harm reduction as an approach to treating opioid addiction

The keys to harm reduction in opioid addiction are syringe access, overdose prevention, and vaccination.

While referral can be helpful for some patients, there are drawbacks. Not all patients want (or need) treatment; not all patients have access to treatment; and it is frustrating for both parties when the only available intervention is to ask the patient to go into treatment without considering all the options available to the patient.

Syringe access

Use of sterile injection equipment, as recommended by the U.S. Department of Health and Human Services (USDHHS), is key to the prevention of blood-borne infections. Numerous health-related associations have called for the elimination of barriers to sterile syringe access, but availability is still not widespread.

Benefits of access to sterile syringes

Facilitating access to sterile syringes, whether by direct distribution or referral, encourages honest discussion between practitioner and patient.⁴³ Patients may not have any other opportunity to discuss drug use and injection with someone knowledgeable about the health risks. These encounters may be more satisfying for the provider, who is often trained only to refer drug-using patients to drug treatment. Patients should also be informed about the role of hygiene in safer injection. Cleaning the injection site has been shown to reduce the risk of abscesses and endocarditis.⁴⁴ Once the issue of disease prevention has been raised, further discussion about drug use may occur. In the discussion of drug use, patients who inject can also receive information on safe disposal.

All hospitals and nursing homes are required to accept household sharps. Properly packaged syringes may be placed in household trash.

Legally obtaining syringes

There are four options for legal access to sterile syringes in New York City: pharmacy sales, syringe exchange, furnishing of syringes by health care providers, and syringe prescription.

Four options for legal access to sterile syringes in New York City

1. Pharmacy sales
2. Syringe exchange
3. Syringe furnished by health care provider
4. Syringe prescription

Pharmacy sales

The New York State Expanded Syringe Access Program (ESAP) allows pharmacies who register with the state health department to sell up to 10 hypodermic needles or syringes to persons 18 years of age or older. To date 2,200 pharmacies in New York State have requested and received authorization to sell hypodermic needles or syringes.

Pharmacies are appropriate sites as their staff of trained health care professionals can offer health education to customers. Pharmacy sales are also low threshold in that syringes are available anonymously on a walk-in basis. Syringe access through pharmacies has been evaluated and found to be effective in reducing risky injection behaviors^{45, 46} without increasing drug use. (See Appendices for information on participating pharmacies.)

Syringe exchange

New York State has 13 legal syringe exchange programs: nine are in New York City, one in Westchester and the others in Buffalo and Rochester. Syringe exchange programs (SEPs) are staffed by persons who are trained in harm reduction and who have significant expertise in the issues facing injection drug users. In addition to syringes, users may also receive a variety of services such as education about safer injection, non-coercive referrals to drug treatment, referrals to medical care, and, sometimes, public health services such as TB screening.⁴⁷ Syringe disposal is also offered. Syringe exchange has been evaluated extensively and has been found to be effective in preventing disease.^{48, 49}

Syringe furnished by health care provider

Hospitals, clinics, and doctors who register with the state health department may furnish up to 10 syringes.

Syringe prescription

Syringes may also be prescribed to IDUs by health care professionals,²⁰ but due to concerns about details in the law, this option is probably not commonly used in New York. These forms of access offer the advantage of counseling by a health care professional or designee, as well as the privacy associated with a medical office. Prescription allows for a user to receive enough syringes to use a new one with each injection. But, if prescribed, there's less privacy than buying in a pharmacy without a prescription.

Overdose prevention

Drug users should be made aware that heroin overdoses are more common after a period of abstinence such as drug treatment or incarceration.⁵⁰ The majority of overdoses also occur when mixing drugs, both other depressants such as alcohol, benzodiazepines, or tricyclics and stimulants such as cocaine.⁵¹ Provision of naloxone and instruction in CPR have been suggested as preventive measures.⁵² Patients may benefit from advice to stay cool and hydrated, as fatal cocaine overdoses cluster in hot weather.⁵³ Other countries have documented protection against overdose risk associated with safer injection facilities.

Vaccination

Hepatitis A⁵⁴ and Hepatitis B vaccines are recommended for all illicit drug users and for non-monogamous adults. Patients should be assessed for indications for influenza and pneumococcal vaccines and an up-to-date tetanus status.

Nonpharmacological Drug Treatments

Drug treatment is offered in a variety of settings. Most settings admit patients using any illicit substance or alcohol. Many of these settings are residential, with admission ranging from four days to a year or more. Child care, family responsibilities, and jobs (even “off the books”) may pose legitimate obstacles to participation.

Nonpharmacological drug treatments include detoxification, short term inpatient treatment, outpatient non-methadone treatment, long term residential treatment, and AIDS residences.

Detoxification

Inpatient “detoxes” are hospital-based units in which patients can be monitored and/or medicated as they are withdrawn from drugs. This step is usually required before entry into treatment programs, except methadone maintenance, which patients may enter directly. Most “detoxes” include lectures, twelve-step groups, individual counseling, and referral for further treatment after acute withdrawal is completed.

Detoxification programs for different substances

- Those using alcohol, heroin, or benzodiazepines frequently require pharmacological support in withdrawal.
- Those withdrawing from stimulants are not usually medicated; they basically catch up on sleep and food.

Detoxification program concerns

In response to concerns over the efficacy and cost of “detoxes,” many programs have shortened their lengths of stay or offered services on an ambulatory basis. Some insurance companies are refusing to pay for cocaine detox because the drug does not produce a dangerous

withdrawal syndrome, and long-term abstinence following a brief detox episode is rare.

While a brief stay in detox rarely leads to abstinence, visits to detox may be a form of harm reduction—people take a break from drug use and reduce their habits. It is important to note, however, that heroin overdoses are most common after a period of abstinence.

Short-term Inpatient Treatment

Generally known as “rehab,” these intensive programs generally last 28 days. The programs are highly structured, and are usually based on the twelve-step model. Patients receive individual counseling, group therapy, and classroom work, with lectures on substance use and relapse prevention. Unlike the long-term residential treatment, rehabs usually place less emphasis on housekeeping and discipline and often have more professionally trained staff.

Outpatient Non-methadone Treatment

These programs may offer anything from weekly support groups to intensive treatment resembling a therapeutic community, with the difference that the participant does not live on site. They employ a variety of modalities and tools, including twelve-step, acupuncture, cognitive behavioral therapy, and urine monitoring. Many of these programs exclude methadone patients, again limiting options for many desiring treatment.

Long-term Residential Treatment

Residential services are designed to help the person who is unable to achieve abstinence in the community setting. The majority of these facilities are “therapeutic communities” (TCs) or “modified therapeutic communities.” TCs are highly structured residential settings based on self-help and the concept of addiction as a learned response.

Program environments

Residents are typically subjected to an environment that incorporates interventions intended to break down the acquired personality traits believed to support their addictions, while providing the basis for a new and drug-resilient personality. There are specific rewards for appropriate behavior. Rewards include increased freedom or responsibility, while punishments for unacceptable behavior include restrictions or demeaning tasks. Residents are responsible for most of the daily maintenance. These tasks are considered to be an integral part of the therapy. Senior residents may have responsibility for supervising newer residents, and graduates often become staff members.

Program elements

Programs may include counseling, classes, group therapy, work, vocational counseling, and job training and placement. The majority of these programs have begun to offer and encourage twelve-step participation, and some have added more professionally trained staff into the peer model. Some facilities are paired with a Department of Health licensed Article 28 Diagnostic and Treatment Center, allowing for intensive treatment of medical problems such as HIV.

Program concerns

Areas of concern include possible humiliation of patients, low retention rates, and a philosophical stance against opioid agonist maintenance.

Humiliation of patients

When making referrals to residential treatment, it is important to be aware that many of these settings use highly confrontational approaches and punishments that are often humiliating. While many graduates of these programs believe the structure was helpful, many persons seeking drug treatment have already been through a great deal of censure, and more of the same in the name of treatment may be detrimental.

Low retention rates

Retention rates are not documented to be high in therapeutic communities; yearly retention has been found to be 10-30%.⁵⁵ In addition to dropping out, patients are also administratively discharged, often for relapse to drug use as well as a host of other unacceptable behaviors. Drug courts often mandate users to TCs, so some of these facilities include significant numbers of residents who have not entered voluntarily. A medline search reveals no data on the retention rate among mandated patients.

Philosophical stance against maintenance treatment

Although several TCs offer “methadone-to-abstinence”—a gradual taper stretched over weeks to months, the overwhelming majority of TCs bar opioid agonist maintenance on philosophical grounds. This severely limits treatment options for methadone patients who either believe they may benefit from intensive psychosocial treatment or who have been mandated by official agencies to residential treatment. The legal and ethical basis for such discrimination against patients receiving a prescribed medication has been questioned. (Personal communication, October 2001)

AIDS Residences

Patients with a diagnosis of AIDS can be admitted to AIDS nursing homes. The majority of these facilities provide varying levels of drug treatment. Most, if not all, allow or provide methadone maintenance. Many offer various modes of group therapy including twelve-step groups. Most of these residences have medical services on site and often offer directly observed therapy (DOT) for all medications, including HIV medications.

Selected Additional Drug Treatment Modalities

Additional treatment modalities include acupuncture, twelve-step programs, cognitive behavioral therapy, and contingency management.

Acupuncture

Acupuncture is offered in many settings—most commonly as simplified auricular acupuncture.

Program practices

Patients have needles inserted in several points in the ear at least several times a week for some period of time.

Program efficacy

An NIH Consensus Statement found that there is sufficient evidence to suggest that this procedure may be a helpful adjunct to other forms of drug treatment.⁵⁶ A more recent study suggested that patients randomized to auricular acupuncture versus relaxation or a needle-insertion control group were less likely to use cocaine over the period of 8 weeks.⁵⁷

12-step programs

Twelve-step programs include Alcoholics Anonymous (AA), Narcotics Anonymous (NA), and Cocaine Anonymous (CA). The “Twelve-Step Movement” grew out of a Christian organization known as the Oxford Group. Traditional “twelve-Step” groups such as Alcoholics Anonymous (the first), Narcotics Anonymous, and Cocaine Anonymous are based on a series of principles and associated actions (the “steps”).

Program practices

Members are encouraged to admit their “powerlessness” over the use of drugs, accept that a “higher power” is the only thing that can help them, and pledge that they will carry the message to others. Participants attend anonymous meetings in which they share experiences and work through the steps.

Potential concerns

For patients with a different cultural perspective, some of the tenets of “twelve-step” may not fit within their value systems, and others may reinforce already low self-esteem.

Program efficacy

Although many people report finding these groups helpful, empirical studies on the efficacy of self-help vary in their findings. Attendance at twelve-step programs following drug treatment is often associated with less substance use, but the cause-effect relationship is questionable. Some randomized studies have actually found worse outcomes among alcoholics attending AA; the conclusion was that coerced subjects biased the data.⁵⁸

Patients should be informed of twelve-step programs, but there is insufficient evidence to insist that they take part in them if the patient does not feel it would be helpful.

Cognitive Behavioral Therapy

This modality is essentially “relapse prevention.”

Program practices

In group or individual sessions, participants focus on the positive aspects of abstinence and the negative aspects of use. In this context, situations which may lead to use are considered, and coping skills are devised.

Contingency Management

Patients may be rewarded for abstinence or punished for drug use.

Program practices

In clinical trials, these rewards can include paying patients with vouchers for clean urines. In reality, contingency management is practiced constantly—from the reward of take-home medication in methadone clinics when patients stop using all drugs, to incarceration for continued drug use.

Conclusions

Instead of the standard method of simply referring all substance users into treatment, the primary care provider, as well as the patient, stands to benefit from an engaging communication with regard to the patient’s substance use. A realistic goal for most substance users is reduction of preventable harm, either through treatment or using the tools of harm reduction. In addition, medical practitioners should be familiar with information that will assist the active user to reduce harm,

such as safer modes of administration, access to clean syringes, and overdose prevention.

Patients who want or are being pressured to enter treatment may be offered guidance in choosing the treatment modality most appropriate to their needs. Many patients may not be immediately successful in changing their pattern of substance use. While many people reduce or stop drug use, it should be noted that few treatments have solid track records of successful outcomes. An exception is methadone maintenance, which is not only proven to reduce heroin use, but also to reduce the transmission of HIV and the risk of overdose. Given the effectiveness of methadone maintenance, all heroin users should be made aware of these benefits, despite the significant drawbacks in the clinic system.

Health care practitioners who are willing to listen to their patients, wishes can offer meaningful assistance to patients who use drugs—whether or not the goal is abstinence.

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CHAPTER 4: COMMON MEDICAL PROBLEMS IN SUBSTANCE USERS

Hillary Kunins, M.D., M.P.H.

ALBERT EINSTEIN COLLEGE OF MEDICINE

Peter A. Selwyn, M.D., M.P.H.

MONTFIORE MEDICAL CENTER

ALBERT EINSTEIN COLLEGE OF MEDICINE

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Introduction

Active substance users present many challenges to the primary care provider. Their illicit drug use places them at risk for drug-related complications; they also frequently have comorbid illnesses common to the non-substance using population, such as hypertension and diabetes. High rates of emergency department treatment and hospitalization¹ assure that physicians who train in urban settings will have an opportunity to manage such complications and illnesses.

With an increasing focus on outpatient management of illness, the current challenge for primary care providers is to offer quality outpatient care to substance abusers. Recent analyses suggest that provision of primary care to substance abusers can lead to less hospitalization.² The challenge for primary care providers and systems of care will be to engage substance users, diagnose and treat them effectively.

In the following chapter, we highlight specific aspects of the history and physical that may be useful in caring for the illicit drug user. We describe some of the common health problems of active substance users, excluding HIV disease, and recommend some adherence strategies and health maintenance interventions.

The Patient-Physician Relationship

As with any patient, the importance of building a relationship cannot be underestimated. The literature on improving the patient-physician relationship suggests that physicians with excellent communication skills conduct higher-quality medical interviews, increase patient adherence and improve outcomes.³

The History

The initiation of frank conversations about the patient's drug history, sexual history, and experience with violence and the criminal justice system serves the dual purpose of gathering relevant information as well as creating an opportunity for the provider to display empathetic, nonjudgmental attitudes. During the discussion of sensitive subjects, the provider models to the patient that such issues are relevant to medical care and are not shocking or distressing.

Drug history

A detailed history of the substances used and the route of administration employed are critical to providing quality care to the patient. The particular substance has ramifications for patient outcomes. For example, cocaine carries health risks distinct from those of heroin. Co-existing alcohol abuse is prevalent and carries its own risks, particularly in hepatitis-C-infected patients.

The route of drug administration is also relevant and affects the risk profile of the patient. Increasingly, there are heroin users who have never injected, perhaps due to the increased purity of heroin or for health concerns. In addition, with increasing availability of syringe exchanges, some injectors may never have shared needles and are therefore less likely to have been exposed to HIV, hepatitis B and C, and other infectious complications of injection drug use.

Sexual history

Sexual history is important in assessing risk of sexually transmitted infections (STIs). In particular, the disinhibition associated with substance abuse may lead to unprotected sexual activities. Another prevalent behavior is exchanging sex for money or for drugs. Specific sexual

behaviors carry distinct risks; identification of particular behaviors can help providers counsel patients more concretely.

History of violence, victimization, and incarceration

Accidents, trauma, violence, and victimization are common findings in the history of users of illicit substances. Patients with a history of accidents or trauma are at increased risk for subsequent injury. Assisting patients in making the connection between their substance abuse and injury may prevent future harm.⁴ A history of trauma may be associated with increased risk for subsequent disorders; for example, head trauma may increase risk for seizure disorder, falls or gunshot wounds for chronic pain.

The prevalence of victimization (physical and sexual abuse) in at least one study of substance-using women was more than twice as high as among patients in a general primary care population.⁵ In addition, this study complemented previous investigations that showed higher rates of somatic complaints and health care utilization by demonstrating that substance-using women with a history of victimization also had higher rates of organic medical disease. Thus, understanding such historical aspects of a patient's life may help the provider anticipate higher utilization, somatic complaints, and medical disorders.

Lastly, history of arrest or incarceration may increase the patient's risk for HIV or hepatitis C (via higher rates of unsafe sex or shared needles). On the other hand, incarceration may have been the only time that a patient received treatment for medical conditions, including HIV.

Physical Findings Specific to Drug Use

Physical findings that may indicate substance use are track marks, nasal mucosa and septal abnormalities, scars, and signs of withdrawal.

Track marks

Illicit needle use often results in scar formation. The skin exam can reveal track marks from intravenous use or more diffuse scarring, which can result from skin popping (injection into the subcutaneous tissue). One study showed that among patients with HIV disease and a substance use history, 76% had recognizable scarring along a vascular distribution. None of the patients without an injecting history had scarring that was confused with “track marks.”⁶

Nasal mucosa and septal abnormalities

With increasing rates of intranasal use of heroin and ongoing intranasal cocaine use, examination of the nasal mucosa and septum may reveal active or past use. Intranasal cocaine use can lead to perforated nasal septum, nasal mucosal atrophy, and frequent nosebleeds.⁷

Scars

Scars on the arms, legs, or other parts of the body might serve as evidence for involvement in violence (with knives or gunshot wounds). Examination of the skin generally and inquiry into the origin of any scars can serve as a nonjudgmental entry point into discussion of the above.

Signs of withdrawal

Signs of withdrawal or intoxication are critical in evaluation of the active substance user. Since a substantial proportion of substance users may use more than one drug, awareness of the effects of the patient’s “drug of choice,” as well as those of any secondary substances, is useful in creating a differential for the patient’s signs and symptoms. Table 1 summarizes some of the major drugs of abuse and signs of both intoxication and withdrawal:

Table 1: Signs of Intoxication and Withdrawal from Major Drugs

Drug	Intoxication	Withdrawal
Opioids	<ul style="list-style-type: none"> ■ Lethargy ■ Pinpoint pupils 	<ul style="list-style-type: none"> ■ Tachycardia ■ Hypertension ■ Lacrimation ■ Piloerection ■ Dilated pupils
Cocaine	<ul style="list-style-type: none"> ■ Hypertension ■ Tachycardia ■ Agitation ■ Dilated pupils 	<ul style="list-style-type: none"> ■ Depressed mood ■ Fatigue ■ Sleep pattern changes ■ Unpleasant dreams
Ethanol	<ul style="list-style-type: none"> ■ Slurred speech ■ Poor motor coordination ■ Unsteady gait ■ Nystagmus ■ Alcohol on breath 	<ul style="list-style-type: none"> ■ Tremor ■ Hypertension ■ Tachycardia ■ DTs
Benzodiazepines	<ul style="list-style-type: none"> ■ Slurred speech ■ Unsteady gait ■ Horizontal nystagmus 	<ul style="list-style-type: none"> ■ Tremor ■ Anxiety ■ Nausea ■ Vomiting ■ Seizures ■ Delirium

Complications of Injecting

Complications of injecting include skin and soft tissue damage, as well as intravascular complications and sequelae.

Skin and soft tissue complications

Cellulitis and abscesses are two common complications of injection drug use. These infections can result from the use of nonsterile needles, improper cleaning of the injection site, and contamination from the solution in which the drug may be dissolved. In one report from San Francisco, nearly 1/3 of injection drug users had suffered an abscess or cellulitis.⁸ For injectors who are not ready to enter treatment, primary care providers can reinforce hygienic injection practices as a means to reduce these complications. Current New York State law permits registered physicians and pharmacists to dispense up to 10 syringes to injectors.⁹ Other noninfectious skin complications include skin or subcutaneous infarction (for example, due to the vasoconstrictive effects of cocaine).

Recurrent damage to the skin, lymph, and venous systems can lead to edema, widespread scarring, and skin ulcers. Such edema, either from lymphatic blockage or venous stasis, is difficult to treat, as it requires compression stockings and elevation of the extremities. Active users, who require frequent visits to the street to “cop,” may have difficulty in adhering to that regimen. Skin ulcers, either as a complication of venous stasis or from the injecting itself, usually respond to local wound care and topical antibiotics.

Intravascular complications and sequelae: bacteremia, endocarditis, and osteomyelitis

As in the case of skin and soft tissue complications, intravascular infections and their sequelae are thought to result from nonsterile and oth-

erwise poor injecting techniques. The vascular complications include pseudoaneurysm and arteriovenous fistula. These can present as pulsatile masses, sometimes accompanied by fever, swelling, and pain, particularly if there is an infectious component. Deep vein thrombosis can sometimes be difficult to distinguish from a severe cellulitis; an imaging study will assist with the diagnosis.

Bacteremia

This is a common complication of injection drug use. One mechanism may be the insertion of skin flora into the vascular system. However, the common comorbidities of poverty and poor nutrition, such as poor dentition, leg ulcers, frequent accidents and trauma may contribute to bacteremia and some of its sequelae such as endocarditis and osteomyelitis.

Endocarditis

The injection drug user is at higher risk than the non-injector for endocarditis. Prior to the appearance of HIV/AIDS, endocarditis accounted for between 5 and 15% of hospital admissions of injectors.¹⁰ The predominant organism is *Staphylococcus aureus* (varying series show 60-90%). Another organism of special note in the injecting population is *Candida*, a rare cause of endocarditis, and thought to be delivered in the drug's diluent. In addition, bacillus species are a frequent contaminant of drug paraphernalia and drugs themselves.

Another distinguishing feature of endocarditis in the injection drug user is the frequency of involvement of the tricuspid valve. In one series, 76% of endocarditis in injectors occurred on the right side of the heart, while in non-injecting controls, only nine percent of cases involved the right side.¹⁰

Diagnosis and treatment of endocarditis can be more complex in substance users. Due to substance users' skills in obtaining street drugs and mistrust of the medical system, they may be more likely to have self medicated with non-prescribed oral antibiotics, thus rendering blood cultures negative.¹¹ Establishing trust is key in eliciting this information. Treatment may be complicated by difficult intravenous access. For active injectors, home intravenous therapy with a "PIC" line in place may not be an option. Former injectors or those with sporadic use may still be reasonable candidates for home intravenous antibiotic therapy.

Osteomyelitis and septic arthritis

Bone and joint infections are a common reason for hospital admissions of injectors. These infections can result from hematogenous spread of bacteria or contiguous spread from infected or ulcerated skin. Similar considerations apply as for endocarditis. Management of long-term antibiotics (in the case of osteomyelitis) poses problems specific to injectors, such as venous access and adherence to and completion of long-term therapy.

Common Infectious Illnesses

Injection and inhalation substance abusers are at higher risk for a variety of infectious illnesses. Direct exposure to pathogens via sharing of needles or sex can lead to HIV infection or viral hepatitis. The drugs themselves can result in poor cough and gag reflexes, placing the drug user at higher risk for lower respiratory track infections. Tuberculosis is a significant pathogen in substance users.

Common infectious illnesses include tuberculosis, hepatitis, pneumonia and other respiratory illnesses, and sexually transmitted infections. HIV will not be addressed in this chapter.

Tuberculosis

Following renewed public health efforts, the increase in number of tuberculosis cases that began in 1986 began to wane in 1993. The risk of tuberculosis, however, remains significant among substance users. Studies conflict as to whether this risk derives from the sociodemographic factors associated with both drug use and tuberculosis, or from an elevated risk due to drug use alone.¹⁰ In either case, the risk is sufficiently high to suspect tuberculosis in substance users who present with a community-acquired pneumonia.

Screening and treatment

Since substance users are at increased risk, they should be screened for tuberculosis on an annual basis. Regardless of age, patients with positive PPDs should be treated. Short-course therapy with rifampin and pyrazinamide should be considered a second-choice alternative to treatment with isoniazid, due to recent reports of its association with hepatotoxicity. Rifampin may decrease levels of many medications, including methadone, NNRTIs—such as efavirenz—and many protease inhibitors. To prevent such drug-drug interactions (and the possibility of perpetuating opiate withdrawal in patients receiving methadone), rifabutin (a less potent inducer) can be substituted for rifampin in treatment of latent infection. Many protease inhibitors decrease the clearance of rifabutin, and therefore one-half the usual dose (150 mg) is recommended.¹² To assure adherence, primary care providers may opt for directly observed therapy (DOT) of LTBI therapy, offered by some public health departments. At some methadone programs, prophylaxis can be given along with the patient's daily methadone dose.

Hepatitis

Estimates of the prevalence of hepatitis C seropositivity among injection drug users range between 70% and 90%. Infection usually occurs

early in the course of injecting, so that the year the patient began injecting can serve as a proxy for the acquisition of the infection. Once infected, the risk of remaining HCV RNA positive is approximately 85%. Studies of the natural history of hepatitis C show variable rates and lengths of time from progression to cirrhosis, depending on the study population. It is believed that somewhere between 10-20% of persons with HCV will progress to cirrhosis, placing them at high risk of hepatocellular carcinoma.¹³ In contrast, a retrospective study of serum from military recruits showed only a 12% incidence of liver disease after 45 years of follow-up.¹⁴

Screening and treatment

Substance users have special concerns and considerations. Their high rate of alcohol use and abuse likely increases the progression of chronic hepatitis C; they need appropriate information, counseling, and support. HIV-positive patients appear to have a higher risk and rate of progression to liver failure. For substance users who continue to inject, appropriate harm reduction consists of ongoing counseling on ways to reduce risk, support, and encouragement to decrease or abstain from drug use.

Since many substance users have high rates of liver dysfunction because of concomitant alcohol abuse or viral hepatitis, liver enzymes should be monitored on a monthly basis. Therapy may be continued as long as liver enzymes do not exceed three to five times the upper limit of normal. As with non-substance abusing patients, they should be instructed to inform the provider of any symptoms attributable to drug-induced hepatitis.

Testing for hepatitis C should be undertaken with care to anticipate what the information will mean to the patient and how it will affect management. Hepatitis C positive patients should be offered vaccina-

tions against hepatitis A and B, counseled regarding the effects of concomitant alcohol abuse, and encouraged to reduce or eliminate alcohol consumption. They also need to be counseled regarding the likelihood of transmission via sharing needles and the potential risk of transmission via sexual relations.

Treatment for Hepatitis C is evolving, and even if a particular patient is not a candidate for treatment at the time of testing, she or he may be motivated to seek treatment as they enter recovery from drug and alcohol use. Early guidelines recommending that patients not be offered treatment until they have been abstinent for six months¹⁵ are being revised to support treatment decisions being made on a case-by-case basis.¹⁶ There is now data on treating active drug users for Hepatitis C. A small study in Germany found a very acceptable virological response (36%) among opioid dependent polysubstance abusers.¹⁷

The majority of injectors also show evidence of past exposure to hepatitis B. Unlike with hepatitis C, however, only the minority (between 5 and 10%) will become chronic carriers;¹⁰ natural history studies report wide variation in rates of progression to cirrhosis. Hepatitis D infection, which only occurs in hepatitis B-infected individuals, can markedly accelerate the progression of hepatitis B.

Although hepatitis A is not a blood-borne pathogen, rates of hepatitis A exposure (as evidenced by antibodies) are higher in substance abusers than in the general population. The mechanism is not known. Recent data indicate that people with hepatitis C infection are at higher risk of liver failure if they acutely acquire hepatitis A.¹⁸ For these reasons, screening for hepatitis A and offering vaccination is recommended for substance users. Similarly, screening for hepatitis B is useful. If the patient is not exposed, the three-part vaccine can be offered (see vaccination section). If a carrier, the patient needs to be counseled to avoid

infecting injection or sexual partners. In addition, potential liver toxicity of various medications for the treatment of HIV, tuberculosis, and hyperlipidemia may affect provider's choice of agents or frequency of monitoring in affected patients.

Pneumonia and other respiratory illnesses

Regardless of HIV status, substance users are at increased risk for community-acquired pneumonia and upper respiratory infections such as bronchitis and sinusitis. Risk factors include aspiration from depressed cough and respiratory reflexes in the setting of opiate use. The usual bacterial organisms, *S. pneumoniae*, *H. influenzae*, and atypical organisms are the common causative agents. Other common pulmonary diseases can be exacerbated by substance abuse. For example, reactive airway disease can be unmasked by intranasal heroin and cocaine use or crack cocaine inhalation.

Screening and treatment

Substance users may benefit from vaccination against *S. pneumoniae*.

Sexually transmitted infections

Several aspects of STIs bear mention. In substance abuse, the presence of an STD should serve as a marker for unsafe sex and should trigger the provider to engage the patient in risk reduction.

Screening and treatment

The provider should offer HIV testing. The substance user may be at special risk for unsafe sexual practices: the sexual disinhibition afforded by substance abuse is associated with lower rates of barrier protection. In addition, some users exchange sex for money or for drugs, circumstances in which they have little control over whether condoms are used.

The United States Preventive Services Task Force (USPSTF) recommends annual gonorrhea and chlamydia screening for sexually active

Annual screening recommended for sexually active patients

- **Gonorrhea**
- **Chlamydia**
- **Syphilis**

patients. Annual syphilis screening should also be performed. Non-treponemal tests may have higher false positive rates in injection drug users, and therefore confirmatory treponemal testing should always be performed.¹⁹

Common Comorbid Conditions

Common comorbid conditions include cardiovascular disease, hypertension, diabetes, alcohol abuse, mental illness, and tobacco-related diseases.

Common Comorbid Conditions:

- **Asthma**
- **Cardiovascular Disease**
 - **CAD**
 - **Stroke**
 - **Hypertension**
- **Diabetes**
- **Hypertension**
- **Mental Illness**
 - **Depression**
 - **Anxiety**
- **Sleep Disorders**
- **Tobacco-Related Illness**
 - **COPD**

Cardiovascular disease

Cocaine is well known to cause vasospasm, hypertension, and ischemic and hemorrhagic cerebrovascular events. These events can occur in the absence of co-existing atherosclerotic disease, but can also occur in its presence. The primary care provider must carefully separate the two: if the event occurred in a young person, without significant family history, the patient likely does not need management of her or his cardiovascular risk with low-fat diet, aspirin, and cholesterol therapy. It is easy to commit patients to “lifelong” aspirin and cholesterol therapy if the history preceding the cardiovascular event is not carefully elicited.

Hypertension and stroke

As in any primary care population, hypertension is a common problem among substance users. Several challenges are specific to users of drugs. First, cocaine and alcohol may be causes of secondary hypertension, and reducing or eliminating those drugs might eliminate the hypertension.

Clonidine, an alpha agonist, is most often used in general medical practice for treating severe hypertension. In substance abuse treatment, it is also used to treat the symptoms of opiate withdrawal and therefore to assist with opiate detoxification. In providing care to substance abusers, the provider should be aware that it is also a street drug used both to self-medicate opiate withdrawal²⁰ and to “boost” the effects of opioids and achieve additional sedation.²¹ Irregular or inappropriate use confers risks such as rebound hypertension upon discontinuation, hypotension, and syncope. Providers need to speak with patients regarding their patterns and reasons for clonidine use in order to make appropriate recommendations for their hypertension treatment.

Cocaine and beta-blockade bear special mention. In the emergency room and intensive care settings, there have been some findings that beta-blockade can worsen the hypertension, chest pain syndromes, and arrhythmias due to cocaine use. The literature theorizes that beta-blockade leads to unopposed alpha stimulation and can worsen these cocaine-related events.²²

Clonidine and substance use

The provider should be aware that clonidine is also a street drug used both to:

- ***Self-medicate opiate withdrawal and to***
- ***“Boost” the effects of opioids and achieve additional sedation.***¹

Risks of inappropriate use:

- ***Rebound hypertension upon discontinuation,***
- ***Hypotension, and***
- ***Syncope.***

Diabetes

Like hypertension, diabetes is common and often under-treated. With irregular eating habits and a dearth of finances to buy nutritious food, glucose control may be difficult to achieve. On the positive side, substance users who have tried to “cut down” or eliminate various substances have had experience in modifying behavior. The provider can help patients make those links and encourage behavior change. Since some substance users have had experience with needles, beginning insulin therapy may be easier than in non-substance-abusing patients. On the other hand, needles may serve as a trigger for those who are currently abstinent or not currently injecting.

Mental illness

There are high rates of other psychiatric illnesses among substance users, such as depression, anxiety disorders, and psychotic disorders. Often it is difficult to differentiate between substance-induced disorders and pre-existing psychiatric morbidity. Sleep disorders, whether secondary to mood disorder or substance abuse, can also complicate treatment. Substance users, accustomed to self-medicating, might choose to medicate their depression or anxiety with benzodiazepines, or insomnia with such sedating antidepressants as amitriptyline. The challenge for primary care providers is to help patients identify treatable illnesses and initiate treatment or make appropriate referrals. In some cases, it is only by treating underlying psychiatric disease that the substance abuse can be effectively managed. Conversely, sometimes the apparent psychiatric illness resolves once the patient decreases or eliminates the use of illicit drugs.

Alcohol abuse

Alcohol abuse coexists with dependencies on other substances and also poses serious health issues. Patients may have difficulty in identifying alcohol as a problem since it is legal and socially acceptable.

Tobacco-related disease

High rates of cigarette smoking among users of illicit drugs confer on this population the risk of malignancies, chronic obstructive lung disease, and asthma. Lung function may be abnormal in substance users. Older studies have shown decreased diffusing capacity among such users, which though initially attributed to drug use, may also have been contributed to by tobacco use.¹⁷

Managing Disease

Key steps in effectively managing disease in substance users include collaborating with treatment providers and meeting patients' identified needs.

Collaborating with substance abuse treatment providers

Primary care physicians, pressed for time, need to collaborate with substance abuse treatment sites to provide quality care. For example, smooth communication between health care and substance abuse providers can minimize unexpected interactions between methadone and the commonly used medications referenced above. Helping patients anticipate the effects of medication dosing on methadone may help them avoid relapse and nonadherence to prescribed medicines.

Meeting patients' identified needs

As with other patients, providers must identify and strive to meet drug users' needs. Asking patients about their concerns and developing plans to address issues raised contribute to a successful relationship and may improve health outcomes.

Promoting adherence

Substance users are perceived to be at higher risk for nonadherence, but studies examining adherence to tuberculosis or HIV medication

Strategies to promote adherence

- **Educate your patient about the goals of the intervention with as many modalities as possible: conversations, handouts, and videos.**
- **Identify needs your patients feel are important.**
- **Help patients prioritize what is really important to them.**
- **Identify particular issues that may adversely affect compliance – e.g. lack of privacy at home (shared bathroom, etc.).**
- **Treat; offer referrals; advocate for patients' needs.**
- **Treat underlying depression or anxiety that will affect patients' ability to reduce or abstain from substance abuse and attend to health needs.**
- **Simplify medication regimens, whether for HIV, diabetes, or hypertension.**
- **Make concrete plans for timing of medication. Fit the medicine into the patient's usual routines.**

have created an appreciation for subtleties that should inform providers caring for substance users. First, some studies have found no association between drug use and adherence. Others have seen an association disappear after controlling for depression. Lastly, the type of substance may matter. For example, crack cocaine use may be more highly correlated with nonadherence than heroin use.²³ Studies show that providers are not able to predict or assess with certainty the degree of their patients' adherence.

One thoughtful article suggests avoiding labeling patients as "nonadherers." Instead, it advocates a "patient-centered approach (that) emphasize(s) autonomy and voluntary cooperation."²⁴

Creating Productive Physician-Patient Interactions

(Adapted from New Eng J Med 1994.)

- Respect your patient. Be courteous, informative, and include patient in decision-making.
- Acknowledge and discuss the patient's substance use.
- Acknowledge that sustaining abstinence is difficult and may take several attempts.

- Acknowledge patient's ambivalence about making behavior change and stopping or reducing drug use.
- Learn and apply interventions for the five-stage model of behavior change: precontemplation, contemplation, decision, action and maintenance/relapse prevention.
- Learn about local resources and make appropriate referrals.
- Set limits regarding unacceptable behaviors (for example, lost prescriptions, disruptive behavior).
- Respond consistently to behaviors that are not acceptable.
- Reassure patients that they will not be abandoned even if abstinence is not achieved.
- Maintain hope and optimism.

Health Maintenance Issues Specific to the Substance User

Providers need to take advantage of every health care interaction to offer preventative health services. Often, these services are postponed while the provider handles the acute complaint. If a patient presents with an acute complaint, such as constipation, or abdominal distress, however, the provider can counsel about screening issues, offer vaccines if the patient is not febrile, or draw blood to screen for hepatitis. The provider must flexibly provide services, capitalizing on any interaction.

Screening

As discussed, substance users are at high risk for tuberculosis and hepatitis. If uninfected, they should be screened annually for tuberculosis infection. For women, Pap smears should be offered on an annual basis. Recent recommendations have suggested decreasing screening intervals to every two to three years following three normal (annual) Pap smears in selected lower-risk women. Depending on the

patient, such a reduction in screening interval may be appropriate for HIV-negative women. Annual pelvic exams, however, may be the woman's only contact with the health care system, so recommending a reduction in that interval might decrease the opportunity for other health interventions.

Vaccinations

As discussed above, offer hepatitis A and B vaccines to seronegative patients. The USPSTF currently recommends both vaccines for users of injection or other illicit drugs.²⁵ Even if the patient is currently sexually abstinent and not using drugs, the natural history of substance use is such that relapse is always a possibility, and, therefore vaccination may benefit patients presently in recovery. Tetanus vaccine (in the form of Td) should be given every ten years. Tetanus was previously a real problem among injection drug users, but currently occurs infrequently because of the high immunization rate. Pneumovax is recommended for immunocompetent patients over age 65 with chronic conditions such as pulmonary disease or diabetes. The USPSTF states that there is insufficient evidence to recommend the vaccine in immunocompromised patients, but argues for vaccination of persons at high risk for disease or with higher case fatality rates. These patients include those who are HIV positive, alcoholics, and persons with cirrhosis. The USPSTF does not address substance users per se, so providers can offer pneumovax based on a case-by-base evaluation. Periodic revaccination may be indicated.²⁴

Drug Interactions with Methadone

For patients who are maintained on methadone for opiate dependence, providers need to anticipate that medications that induce P-450 hepatic enzymes may decrease methadone levels and thereby induce withdrawal symptoms. Common culprits are rifampin (as mentioned earlier), phenytoin, and HIV medications such as efavirenz and nevirapine.

Conclusions

The high prevalence of substance abuse in the general population guarantees that health care providers will commonly care for substance users in their clinical work. Depending on the clinical setting, some providers will work with substance users on a daily basis, others on a more periodic basis. Regardless, caring for substance-using patients, as for all patients, can be a mutually rewarding and satisfying experience. As we have discussed, awareness of specific history and physical findings, common medical problems, and health maintenance issues can help the provider provide quality medical care to the substance-using patient. According respect and dignity, as well as setting limits and clear expectations, can help the provider establish rapport, build relationships, and engage the patient in medical care.

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CHAPTER 5: SUBSTANCE USE IN PREGNANCY

Janet L. Stein, MD
BETH ISRAEL MEDICAL CENTER

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Introduction

The idea of a pregnant woman actively using illicit drugs, alcohol, and tobacco arouses emotional reactions from us. We think of the developing fetus and ask, “How can she do this? Doesn’t she care that she is harming her unborn child?” Even in our role as health care providers, we may find it difficult to hide our disdain and anger as we approach these women in the setting of their medical care. Some of our frustration may also stem from the feeling that we cannot elicit change in them, making us feel inadequate as providers.

Antagonistic and judgmental interactions only further alienate women from the system. In focus groups held with pregnant women in substance abuse treatment, women were asked what they would tell a friend who was pregnant and using drugs. Although they said that they would try to persuade the woman to stop, “...every one of them also would advise the woman not to admit to the doctor or social worker that she was using drugs.”¹ These ingrained expectations and the judgmental reactions of health care providers can collide to create a powerful resistance to seizing the moment and, therefore, a lost opportunity. Entangling health care with the criminal and legal system has interfered with our credibility and ability to do our job.

However formidable these obstacles to change may seem, pregnancy provides an opportunity for change because change (becoming a mother) is inherent in the process. Pregnancy also provides a unique opportunity for intervention by health care providers because women inevitably present to “the system,” even if it is only to deliver the baby. To have an opportunity for any meaningful impact, we, as providers, must be informed and prepared to engage these women whenever they present to us.

Not only must we be prepared to engage the woman at any point; we must shift our focus. Viewing women as only vehicles for a fetus puts a primary focus on the baby instead of the woman, and neglects the context within which the baby exists. The woman is the primary patient and deserves careful, thoughtful intake assessment. For different women, at different times, particular issues will be more acute in a given situation and will guide the focus for initial efforts at treatment and referrals. Somehow, all of these problems need to be addressed while integrating prenatal care. It is a labor-intensive, time-consuming, and often emotionally draining process for the provider. The difficulties for the provider reflect merely a fraction of the difficulties the patient herself faces.

With honest effort by the provider, some sense of the larger context, realistic expectations and goals, and a working partnership with the pregnant woman, the period of antenatal care, birth, and the postpartum period can be a rich time of opportunity and growth.

Background

Women of all demographic categories use different substances during pregnancy—for reasons far more complex than simple hedonism. The consequences they and their fetuses risk come not only from the effects of the drugs themselves, but also from the consequences of drug-seeking behavior.

The extent of substance use during pregnancy

Studies that do blinded toxicology screens show similar rates of substance use during pregnancy across racial, class, and age categories. Demographic characteristics relate to the type of substance used: black and poor women are more likely to use cocaine; white and more educated women are more likely to use alcohol. An analysis of a 1993

Statistics from NIDA suggest that more than 5% of women who gave birth used illicit drugs during pregnancy, 18.8% had used alcohol, and 20.4% had smoked cigarettes.²

percent who used illicit drugs at least monthly was inversely correlated with income."³ However, demographics and racial features also relate to who is more likely to get tested for drugs and, therefore, reported to social agencies.⁴

National Institute on Drug Abuse (NIDA) survey revealed that "...the percent of adult women who ever used illicit drugs was positively correlated with income, while the per-

Reasons contributing to substance use

Data show that women who were raised in homes with alcohol and substance abuse have a high rate of drug use during pregnancy. Very high proportions of these women have themselves experienced early sexual abuse during childhood. Concomitant/comorbid psychological/psychiatric disorders, particularly depression and post-traumatic stress disorder, abound.⁵ Oftentimes, the mental disorder precedes the drug dependence, with drug use beginning as a form of self-medication.

Clearly, women must be viewed in the context of their lives as a whole. The underlying psychopathology of chronic substance use is complex. The initial reasons for drug use may be eclipsed, over time, by addiction and physical dependence. Patients may come to rely on drugs to "...protect against painful affect states" and, over time, "to produce not euphoria but, rather, relief from dysphoria."⁶ That is, drug use becomes a coping mechanism rather than a hedonistic pursuit.⁷ This may also explain some of the appeal of one type of drug use over another. The misconception that illicit drug use is perpetrated solely by pleasure-seeking, irresponsible individuals is at the root of the judgmental and punitive views of society.

Harmful Effects Of Drug Use During Pregnancy

Undoubtedly, the drug effects themselves pose health risks such as overdose, withdrawal, and death. The general effects of an unhealthy life style related to behaviors for obtaining and using drugs are also significant.

Implications of drug-seeking behavior for the mother

Concomitant infections occur with injection drug use or by the sexually promiscuous behavior used to attain drugs. (Crack, in particular, indicates issues related to the hypersexual behaviors related to obtaining the drug—sex for drugs and the consequent exposure to multiple partners and sexually transmitted diseases, including HIV.)

These include

- HIV,
- Hepatitis B and C, and
- Other sexually transmitted diseases.

Rape, violence, and sexual assault also occur within the context of drug-obtaining behavior.

Implications for the fetus from the mother's drug use

The effects of illicit drugs, as with any medications, can have a myriad of known or potential fetal and neonatal effects. These range from known teratogenic effects (unusual), general problems of growth and well being (more common), and more long-term subtle and multi-determined effects, such as neurobehavioral and learning disabilities.

All drugs of abuse act by mimicking endogenous neurotransmitters or effecting changes in these systems and, by this, may lead to changes that have subsequent effects on brain structure, function, and behavior.⁸ These effects are complicated to sort out, as women often use multiple drugs. Moreover, long-term problems can also result from

the interaction between the child and the environment, itself often a major contributor with poverty, violence, family composition, and unstable living conditions.⁹ Proving cause and effect is murky, and proving the benefits of interventions is difficult as well.

The following are commonly abused drugs and their effects on the fetus.

■ *Opioids* (heroin and methadone)

Heroin and methadone both lead to withdrawal in the neonate, with heroin withdrawal occurring earlier (24-48 hours) than methadone (as late as 7 days). Treatment may necessitate prolonged hospital stays as neonates are medicated with a taper of narcotic (paregoric) for withdrawal symptoms.

■ *Cocaine*

Cocaine-related problems stem from the sympathomimetic/ vasoconstrictive effects of the drug. Cerebrovascular or other vascular accidents can occur both in the mother or fetus.

Poor placental blood flow may result in intrauterine fetal growth restriction, preterm labor, or abruption. This can all lead to preterm delivery with the array of problems related to prematurity as well as the neurobehavioral problems associated with the drug itself.

■ *Alcohol*

Fetal alcohol syndrome is well described in the medical literature, and includes craniofacial abnormalities, growth restriction, and neurodevelopmental delays. Of all mental deficiency in children, 10-20% is attributed to maternal alcohol use, yet alcohol is the num-

ber one preventable cause of mental retardation. There is no known safe level of alcohol intake during pregnancy. During pregnancy, alcohol freely crosses the placenta; after birth, it can cross into breast milk.¹⁵

Table 1: Common Consequences to the Fetus of Drug Use During Pregnancy

Drug Fetal/Neonatal	Fetal/Neonatal Effect	Possible Consequences
Opioids (such as Heroin)	Fetal addiction	<ul style="list-style-type: none"> ■ Withdrawal in the neonate ■ Prolonged hospital stay
Cocaine, Crack	Poor placental blood flow	<ul style="list-style-type: none"> ■ Intrauterine fetal growth restriction ■ Preterm labor or delivery ■ Abruptio
Alcohol	Fetal alcohol syndrome	<ul style="list-style-type: none"> ■ Growth restriction ■ Craniofacial abnormalities ■ Neurodevelopment delays including mental retardation

Harm Reduction as a Model of Perinatal Ethics

Harm reduction seeks to establish long-term, realistic goals for pregnant substance users and to promote fetal well being through maternal well being. Harm reduction addresses the larger scope of a woman's life by recognizing the context of the pregnancy and the obstacles substance use presents to quality care. By treating the woman as a whole, instead of merely a vehicle for the fetus, harm reduction seeks to eliminate "maternal-fetal conflict" and promote the long-term health of mother and child.

As providers, we need to recognize pregnancy in its context, recognize obstacles to quality prenatal care, and identify harm reduction as a goal.

Recognize pregnancy in its context

Providers working in an obstetrical setting realize that pregnancy itself is but a brief period of time in the larger context of the life of a woman and her child. True quality care ideally begins before the pregnancy in order to achieve optimal maternal well being. Whatever the concurrent medical problems, pregnancy outcomes are always better if chronic medical conditions are stable, medication regimens assessed for possible pregnancy-related concerns, and pregnancy is planned. Outcomes do not end at delivery: integration of the infant into the family unit—and the family unit into the community—is the long-term goal.

Recognize obstacles to quality prenatal care

Patients with active substance use may be unwilling or unable to comply with our best efforts to provide prenatal care—they may not show for appointments, not follow through with referrals, and seem to ignore our advice to do such things as stop smoking. These behaviors may be construed as potentially harmful to their fetuses. This conflict may be seen as an ethical issue—"maternal-fetal conflict."

Identify harm reduction as a goal

Maternal goals during prenatal care should be viewed in the same way as any chronic medical illness; just as a diabetic will “cheat” on her diet, the nature of substance use is one of remissions and exacerbation. Perfection in the form of absolute abstinence should not be the short-term goal. Rather, harm reduction is a set of strategies recognizing that taking any steps toward reducing drug- and alcohol-related harm is moving in the right direction. For example, the use of illicit drugs while in methadone maintenance is tolerated, as it may reduce the incidence of drug overdose; needle exchange programs reduce the risks of HIV and other blood-borne infections. Harm reduction respects any positive change as defined by the individual and integrates this incrementally into a long-term treatment plan.

“The goal of prenatal care is to help the mother maintain her well being and achieve a healthy outcome for herself and her infant.”¹⁰

Lisa Harris, MD, puts forth an alternative model of perinatal ethics where “fetal well being is achieved when maternal well being is achieved.” If the particulars of a pregnant woman’s life are addressed along with the social and cultural contexts in which the ethical dilemma occurs, a clinician might not need to balance the relative moral weight of obligations owed to her against those owed to a fetus.⁹

Crucial Steps in Prenatal Care

Reproductive-aged women should always be viewed as “potentially pregnant.” Ideal prenatal care begins before a woman becomes pregnant, and recognizing the pregnancy as soon as possible is important to quality care. In order to lay the foundation for the long-term health of mother and child, prenatal care providers must

- Assess the mother’s risk of substance use,

- Acknowledge and treat her current substance and psychiatric problems, and
- Consider aspects of prenatal bonding.

Assess the likelihood of drug use

To be able to offer services to women using drugs or alcohol, most professionals agree that a screening protocol is needed to identify women at risk and that, to be effective, all women should be screened. A recent study by Chasnoff classified women at low, average, or high risk for drug use in the current pregnancy and developed three easy, quick questions to ask.

Table 2: Chasnoff Risk Assessment Questionnaire

Question	Indication
<i>Have you ever drunk alcohol?</i>	Past alcohol use is associated with a greater risk of substance use during pregnancy.
<i>How much alcohol did you drink in the month before pregnancy?</i>	Women who drank in the month before pregnancy were 41 times more likely to currently use drugs, alcohol, or both, than were women who had never drunk alcohol. They were about 5 times more likely to currently use either drugs or alcohol or both than were women who did not use alcohol in the month before pregnancy but had used alcohol in the past.
<i>How many cigarettes did you smoke in the month before pregnancy?</i>	Past smoking is associated with a greater risk of substance use during pregnancy. ¹⁰

Many other screening tools have been devised. A popular alcohol abuse screening questionnaire uses the T-ACE scoring tool for assessment, which asks four simple questions.¹¹

Table 3: T-ACE Scoring Tool for Alcohol Abuse

Acronym	Question
T- Tolerance	How many drinks does it take to feel high?
A- Annoyance	Are you annoyed when people criticize your drinking?
C- Cut down	Have you felt the need to cut down on your drinking?
E- Eye-opener	Have you had to have a drink in the morning to get going (an eye-opener)? ¹¹

Screening should be done at the first prenatal visit and subsequently as well. Patients may not discuss these issues at an initial visit, whereas, after some rapport and trust have been established, they may choose to disclose, particularly if the patient feels the purpose of the questions is to assess for help and medical care rather than to be “catch.” Again, the doctor-patient relationship is crucial to successful steps toward meaningful care and treatment. It can provide structure to the patient in the form of scheduled appointments and supportive interactions that may not exist anywhere else in her life at the moment.

Treat current substance use

Connecting the mother to drug treatment is essential; however, programs that are sensitive to the needs of women may be difficult to find. Retention in treatment is facilitated by the provision of support

services, such as availability of childcare, parenting needs (education, skills), transportation, and social and mental health needs.³

Opioid addiction

Methadone maintenance is recommended for opioids such as heroin. Methadone has been used to treat women during pregnancy for more than 30 years, and has been shown to reduce maternal mortality and to lower rates of fetal morbidity and pregnancy-associated complications.¹² Medical withdrawal from methadone during pregnancy has been described, but is generally not recommended. Motivation to withdraw rather than to remain on methadone maintenance is often based on the belief that it is better for the baby, but the overwhelming risk to the baby remains active maternal substance use. There is also the unfortunate reality that, rather than viewing methadone maintenance as a positive representation of a woman in treatment, stigma remains.

Cocaine addiction

Treatment for cocaine addiction relies primarily on nonspecific measures common to all substance abuse treatment, such as removal of the woman from her environment, and an array of supportive services, such as twelve-step programs.

Alcohol addiction

Alcohol treatment may require medication for severe symptoms of withdrawal, such as delirium, hallucinations, delusions, and seizures. Short-acting barbiturates or benzodiazepines are the drugs of choice for medicating.¹³

Other drug addictions

Other drugs must be individually assessed for need of pharmacological support for withdrawal. Generic supportive services are always needed.

Address prenatal bonding issues

Ultrasound is a widely available, non-invasive, and safe adjunct to prenatal care that can provide much useful information. It can be used to evaluate fetal structural anomalies, size, growth, and well being. The ultrasound examination itself can be an experience in maternal-fetal bonding. The woman can see the fetus, be reassured that she has not irrevocably damaged her baby, and be motivated to continue to try to work towards a good outcome. Knowing the sex of the baby, if she desires, can serve to facilitate making the pregnancy real and help the mother to project the future.

Antenatal consultation with pediatric providers can be useful. Preparing the mother for what to expect with her baby can allow her to be better prepared and, as a result, perhaps less emotionally vulnerable to relapse.

Crucial Steps in Intrapartum Care

The intrapartum period is a time for continued emotional support for the mother—preferably by the same staff—with an assessment of future support networks and decisions about pain management.

Achieve continuity of staff

In many clinic settings, the inpatient staff differs from the outpatient staff. Once again, the women have to deal with new providers and the stigma of being identified as a “drug user.” Depending on the setting, and to some extent the degree of communication between in- and outpatient settings, the change of staff may undermine strides that have been made in the therapeutic relationship between patient and providers. The benefits of continuity, familiar faces, and limited provider turnover cannot be underestimated. These benefits hold true of medical staff, social work staff, and other support services.

Table 4: Treatment Recommended for Pregnant Substance Users

Drug	Treatment	Treatment history	Support needed
Opioids (such as heroin)	Methadone maintenance	Methadone has been used to treat women during pregnancy for over 30 years and has been shown to reduce maternal mortality, and to lower rates of fetal morbidity and pregnancy-associated complications.	Social Services, psychological services, parenting skills
Cocaine	Withdrawal		Generic supportive services
Alcohol	Withdrawal; short-acting barbiturates or benzodiazepines are the drugs of choice. ¹³		Alcohol treatment may require medication for severe symptoms of withdrawal, such as delirium, hallucinations, delusions, and seizures.

Assess the mother's support network

The patient's hospitalization may be a good time for staff to assess her support network. Who shows up to support her during labor and to visit may be telling.

Address pain management

Pain management may be an issue in labor. Providers may be tempted to under-medicate for pain if there is a bias about drug-seeking behavior and insensitivity to the reality of the pain. Involving the anesthesia providers early in the process may be most helpful. It is essential that anesthesiologists be knowledgeable about and sensitive to the special needs of this population.

Crucial Steps in Postpartum Care

Quality postpartum care means showing that delivery is not the end of care, but the beginning of a new phase of care. Quality postpartum care includes continuity of staff, continued emotional support for the mother, support for bonding issues or questions, contraceptive advice, and watching for signs of postpartum depression.

Achieve continuity of staff

Even when patients have had a relationship with obstetric staff, they must now deal with the pediatric staff that no longer has their interest in the forefront, but rather the baby's. Keeping the obstetrical staff involved at this point can provide continued support for the mother.

Provide emotional support

The reality of neonatal problems is now apparent. Women who have had other children while using drugs may already be familiar with medical issues/complications at this time. When the newborn does have real problems, this is a time of tremendous shame and guilt that must be addressed.

Address bonding issues

Infants who are excessively irritable or non-reactive because of withdrawal or developmental problems contribute to the impairment of maternal-infant bonding, particularly in the first few days of life. Poor maternal-neonatal interaction can add to maternal frustration, guilt, depression, and further risk for relapse. Add concurrent medical problems necessitating prolonged neonatal hospitalization, with separation from the mother, and a cycle of events ensues that further impairs bonding.

Contraindications for breastfeeding

- ***Active illicit substance use***
- ***HIV infection***
- ***Hepatitis B carrier status with positive e antigen***

Breastfeeding can be a wonderful way to support bonding, but requires a level of involvement and commitment that may be difficult if the woman is wrapped up in her own issues. Breastfeeding is not contraindicated with methadone maintenance, but is contraindicated with active illicit substance use or HIV infection. Hepatitis B carrier status (HbsAg positive) is also not a contraindication to breastfeeding unless e antigen, highly correlated with infectivity, is also positive.

Address contraceptive issues

The postpartum period may, in fact, be the only opportunity to work with some women around family planning issues to prevent the next unexpected or unplanned pregnancy. Each attempt at pregnancy may represent a wish—consciously or unconsciously—to finally “get it right.”

Contraceptive issues should be addressed before the woman is discharged from the hospital. Follow-up may need to be earlier than the traditional six weeks to engage the woman before she returns pregnant again. If she is visiting the baby in the hospital after her own dis-

charge, connecting with her at a convenient time may make it more likely that she will follow up.

Watch for signs of postpartum depression

Postpartum depression should be watched for, as it can lead to self-medication. The possibility of postpartum depression can be discussed prior to the woman's leaving the hospital, so that she is aware that it is a possibility and can seek help.

Practical Steps For Providers

Providing care for the pregnant woman who actively uses illicit drugs, alcohol, and tobacco presents great difficulties, but success can be achieved with a shift to the model of harm reduction. The following steps suggest attitudinal aspects of this shift:

- Remember that each interaction is an opportunity to connect with the patient.
The woman is the priority; fetal issues are important, but the woman must come first.
- Set some goals and priorities with your patient.
These should be simple and concrete, with a high likelihood of success, such as keeping an appointment.
- Reward success.
Praise is a wonderful reward and adds to self-esteem. Be as positive as possible.
- Recognize the chronicity of the disease and its inherent course of remissions and exacerbations.
Help the patient recognize this too.
- Connect to every service that can help. Utilize all the resources available in your setting.
Communicate between social service agencies, drug treatment programs, and prenatal care.

- Utilize pediatric connections in the antenatal period if possible.
Outpatient and inpatient obstetrical services should be connected with good transfer of information and communication.
- Advocate for the patient in the system.
- Know yourself and your role.
Leave prejudices aside or recognize that you should not care for these patients.

In *How Good Do We Have To Be?*, Harold Kushner reminds us that "...being human can never mean being perfect, but it should always mean struggling to be as good as we can and never letting our failures be a reason for giving up the struggle...How good can we expect a person to be? As good as he or she is capable of being."¹⁷ Both patients and providers would do well to remember this.

Policy Level Advice

Use your voice as a health care provider to advocate for women in need. Howell and Chasnoff suggest the following at the policy level:

1. *Comprehensive services for women require collaborative and cooperative efforts at both the state and community level.*
2. *States should start small and then expand.*
3. *Outreach should be broad-based and encompass many “intake” sites.*
4. *Quick responses are important and should be emphasized.*
5. *Physicians should be involved in efforts to change physician knowledge level, attitudes, and behavior.*
6. *Programs should use interdisciplinary approaches.*
7. *Services for pregnant substance abusers should be family centered.*
8. *Programs should match services to the specific needs of each woman and provide a combination of types of services.*
9. *Substance abuse should be viewed as a long-term, chronic relapsing condition.*
10. *Linkages to a wide variety of programs and systems are critical to program success.*
11. *Programs must address the tension between child-focused and mother-focused providers and services.¹*

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CHAPTER 6: PAIN MANAGEMENT IN SUBSTANCE USERS

Peter Selwyn, MD

MONTEFIORE MEDICAL CENTER

ALBERT EINSTEIN COLLEGE OF MEDICINE

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Introduction

One of the most challenging areas in the care of substance users is the assessment and management of pain. Without treating both the substance use disorder and its associated co-morbidities in substance-using patients, any treatment success is likely to be compromised.

Substance users have been found to have a high prevalence of pain, arising from a wide variety of sources. These include conditions such as:

- Musculoskeletal pain resulting from infections, chronic degenerative disease, and trauma,
- Skin and soft tissue infections,
- Chronic liver disease,
- Chronic venous insufficiency,
- Alcoholic, nutritional, and HIV-related peripheral neuropathies, and
- Pain associated with other HIV-related conditions, infections, and therapies (e.g., Disseminated *mycobacterium avium* complex infection, cryptococcal meningitis, *cytomegalovirus*-related radiculopathy, zidovudine-related headache, etc.).¹⁻³

Obviously, substance use and misuse do not lessen the likelihood of risk of pain from the same very broad range of concerns that affect all members of the population.

In addition to a high prevalence of pain, substance users may also be at high risk for the under-treatment of pain.⁴ This stems from factors in several different domains, including provider issues, patient characteristics, and environmental factors. Providers may be suspicious of any report of pain in a substance user as mere evidence of drug-seeking behavior, and may be reluctant to prescribe narcotic analgesics—even when clinically indicated—for fear of promoting drug abuse. Patients

may reinforce providers' suspicions by attempting to manipulate prescription amounts of refills or by exhibiting drug-seeking behavior even in the absence of any evidence of pain. Non-white patients, including substance users, may be more likely to have pain under-diagnosed and under-treated than white patients,⁵ and pharmacies in poor, non-white neighborhoods may be less likely to stock narcotic medications than in other communities, as was demonstrated for New York City in a recent article in the *New England Journal of Medicine*.⁶ In addition, however, substance-using patients with pain may also be more likely to manipulate medications and take non-prescribed analgesics to self-medicate.⁷

For all the above-mentioned reasons, it is important for primary care providers to assess and treat pain effectively in substance users. It is possible to accomplish this in ways that both manage pain effectively and address substance abuse problems without compromising the attention to either diagnosis. Too often, unfortunately, providers make the implicit judgement that the presence of substance use disqualifies substance users from having their pain taken seriously or treated successfully. This is most frequently an unconscious judgement, but, nevertheless, it has important implications for routine care in many situations in which substance users interact with the health care system. This chapter will present simple and straightforward strategies for managing pain in substance users in ways that will address both domains and not address one at the expense of the other.

Definition of Terms

Certain definitions will be key to this discussion, including substance use, physical dependence and tolerance, and pseudo-addiction.

Substance use

In the following discussion, "substance use" will refer to the chronic, clinically significant use of substances including alcohol, opioids,

Table 1, Definition of Substance Dependence in DSM-IV

Substance dependence

A maladaptive pattern of substance abuse, leading to clinically significant impairment or distress, as manifested by three or more of the following, occurring at any time in the same 12-month period:

- **Tolerance, as defined by either of the following:**
 - A need for markedly increased amounts of substance to achieve intoxication or desired effects.
 - Markedly diminished effect with continued use of the same amount of the substance.

- **Withdrawal, as manifested by either of the following:**
 - The characteristic withdrawal syndrome for the substance.
 - The same (or closely related) substance is taken to relieve or avoid withdrawal symptoms.

- The substance is often taken in larger amounts or over a longer period than was intended.

- There is a persistent desire or unsuccessful efforts to cut down or control substance use.

- A great deal of time is spent in activities necessary to obtain the substance (e.g., visiting multiple doctors or driving long distances), use the substance (e.g. chain smoking), or recover from its effects.

- Important social, occasional, or recreational activities are given up or reduced because of substance use.

- The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (e.g., current cocaine use despite recognition of cocaine-induced depression, or continued drinking despite recognition that an ulcer was made worse by alcohol consumption).

Substance abuse

A maladaptive pattern of substance abuse leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:

- Recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home.
- Repeated absences or poor work performance related to substance use
- Substance-related absence, suspension
- Expulsions from school
- Neglect of children or household

- Recurrent substance use in situations in which it is physically hazardous.
 - Driving an automobile
 - Operating a machine when impaired by substance use

- Recurrent substance-related legal problems.
 - Arrests for substance-related disorderly conduct

- Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (e.g., arguments with spouse about consequences of intoxication, physical fights).

- The symptoms have never met the criteria for substance dependence for this class of substance.

Source: APA. DSM-IV. 1994. Passik SD, Portenoy RK. Substance Abuse Issues in Palliative Care. In: Berger A, Ed. Principles and Practice of Supportive Oncology. Philadelphia: Lippincott Raven Publishers; 1998: 513-529.

cocaine and other stimulants, and other prescribed and illicit drugs. It will encompass both the DSM-IV definitions of “substance abuse” and “substance dependence,”⁸ (Table 1) and the American Society of Addiction Medicine’s (ASAM) definition of “addiction” (Table 2).⁹

Physical dependence and tolerance

Further, the concepts of “physical dependence” and “tolerance”, (Table 2), are also relevant to clinical assessment and decision-making regarding proper pain management in substance users. One or both of these conditions may be present in the setting of prescribed analgesic use without necessarily indicating abuse, psychological dependence, or addiction, but still must be considered in assessing and managing pain in substance users.

Pseudo-addiction

Lastly, the syndrome of “pseudo-addiction”, which has been described in patients with chronic pain, needs to be distinguished from true addiction.¹⁰ The former involves drug-seeking behavior in the setting of inadequately treated pain, which then subsides once the pain is effectively treated. The latter, in contrast, is defined as outlined above by ongoing, uncontrolled use of substances despite harm and without relationship to untreated pain. Popular perceptions to the contrary, it has not been shown that prescription of narcotic drugs leads to addiction in patients being treated for chronic pain.⁴ Nevertheless, the important caveat remains that for patients with a history of substance abuse, the presence of chronic pain and/or the exposure to narcotic analgesic drugs may indeed precipitate a relapse to addictive or drug-seeking behavior. This again underscores the importance of addressing both pain management and substance abuse treatment issues: we do not have the luxury of ignoring either one, since doing so will inevitably result in a worse outcome on both fronts.¹¹

Table 2. Definitions of Addiction, Physical Dependence, Tolerance⁹, and Pseudo-Addiction¹⁰

<p>Addiction</p>	<ul style="list-style-type: none"> ■ A primary, chronic neurobiologic disease, with genetic, psychosocial, and environmental factors influencing its development and manifestations. ■ It is characterized by behaviors that include one or more of the following: <i>impaired control over drug use, compulsive use, continued use despite harm, and craving.</i> ■ Most consistent with related concepts of ‘psychological dependence’ and the DSM-IV criteria for “substance dependence”.
<p>Physical dependence</p>	<ul style="list-style-type: none"> ■ A state of adaptation that is manifested by a drug class-specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug, and/or administration of an antagonist.
<p>Tolerance</p>	<ul style="list-style-type: none"> ■ A state of adaptation in which exposure to a drug induces changes that result in a diminution of one or more of the drug’s effects over time.
<p>Pseudo-addiction</p>	<ul style="list-style-type: none"> ■ Syndrome of behavioral symptoms which mimic those seen with psychological dependence, including an overwhelming and compulsive interest in the acquisition and use of opioid analgesics. ■ Unlike true psychological dependence, pseudo-addiction is an iatrogenic syndrome caused by the undermedication of pain. ■ Symptoms and aberrant behaviors resolve once pain is effectively controlled.

Managing Pain in Substance Users

Pain management in substance users begins with three steps—assessing pain, treating pain, and reducing the potential for the abuse of pain medication.

Assessing Pain

The assessment of pain has certain key steps, including assessing the patient's history of substance use, assessing the patient's history of pain, and assessing the category of current pain.

History of Substance Use

When evaluating patients with pain, it is important to assess them for any previous or current history of substance use. This should be part of the basic clinical assessment for all patients in primary care settings, but it is particularly important to obtain this information if one is going to initiate a treatment plan for pain management. Using simple, focused questions and a non-judgmental, non-threatening style of interviewing, even busy clinicians can quickly assess a patient's history and current behavior regarding substance use. It is important to ask about specific substances, amount and frequency of use, route of administration, side effects or adverse sequelae, symptoms suggestive of tolerance, physical dependence, or psychological dependence, and any past treatment history. The CAGE questionnaire may be a useful and relatively non-intrusive screen for alcohol use.¹² Physical examination can provide evidence of current or past substance use through inspection for injection marks (or "tracks"), evidence of new or old soft tissue infections and abscesses, hepatomegaly, tremor, asterixis, etc. (Table 3).²

Documenting the History of Pain

In addition to a thorough assessment for substance use, it is important to obtain an accurate history of pain in order to be able to treat it suc-

cessfully. Here, as well, it is critical to obtain specific information about the characteristics (e.g., dull, sharp, burning, tingling, aching, constant, episodic, spasmodic, etc.), timing (e.g., frequency, duration, etc.), intensity (e.g., on a visual analog or 0 to 10 scale), location, and any precipi-

Table 3. Screening for and Diagnosis of Substance Abuse

History of Substance Abuse	
Substances used	<ul style="list-style-type: none"> ■ Opioids (e.g. heroin, prescription analgesics) ■ Stimulants (e.g. cocaine, prescription stimulants) ■ Alcohol (e.g. beer, wine, spirits, nonbeverage sources) ■ Sedative-hypnotics (e.g. benzodiazepines, barbituates) ■ Tobacco (e.g. cigarettes, chewing tobacco) ■ Other (e.g. marijuana, hallucinogens, solvents)
Route of administration	<ul style="list-style-type: none"> ■ Injection (e.g. intravenous, subcutaneous, intramuscular) ■ Intranasal ■ Inhaled ■ Oral
Pattern of use	<ul style="list-style-type: none"> ■ Amount ■ Frequency ■ Duration ■ Most recent use ■ Needle sharing or shooting-gallery use
Treatment history	<ul style="list-style-type: none"> ■ Setting (outpatient, inpatient, residential) ■ Drug-treatment program ■ Pharmacologic treatment ■ Treatment outcome

Table 3 continued

Complications of Substance Abuse

Medical

- Needle-induced:
Viral infections
Bacterial infections
Fungal infections
Peripheral vascular disease
- Drug-Induced:
Overdose
Withdrawal
Organ-specific complications (e.g. nephropathy due to heroin; cardiac ischemia due to cocaine; gastrointestinal, cardiac, and neurologic disease due to alcohol)
- Other:
Tuberculosis
Sexually transmitted disease

Social

- Unemployment
- Family Disruption
- Legal Problems
- Homelessness

Physical examination

Signs of Injection Drug Use

- Recent:
“Tracks”
Cellulitis
Abscess
- Past:
“Track” scars
Abscess scars

Signs of Intoxication

- Opioids (lethargy, pinpoint pupils)
- Cocaine
 - Hypertension*
 - Tachycardia*
 - Agitation*
- Alcohol, benzodiazepines, other drugs
 - Alcohol on breath*
 - Disinhibited behavior*
 - Slurred speech*
 - Impaired gait*
 - Impaired cerebellar function*

Signs of Withdrawal

- Opioids
 - Tachycardia*
 - Hypertension*
 - Lacrimation*
 - Piloerection*
- Cocaine
 - Depressed mood*
- Alcohol, benzodiazepines, other drugs
 - Tremulousness*
 - Sleep disturbance*
 - Tachycardia*
 - Hypertension*
 - Headache*
 - Dehydration*

Source: O'Connor PG, Selwyn PA, Schottenfeld RS. Medical Care for Injection-Drug Users with Human Immunodeficiency Virus Infection. *N Eng J Med* 1994; 450-459.

tating or relieving factors, including, but not limited to, previously used medications and dosages. In order to measure response to treatment successfully, it is critical to employ a standard measure which can then

Classification of Pain

Nociceptive pain

From stimulation of intact “nociceptors” (pain receptors)

- ***Somatic-skin, soft tissue, muscle, bone***
- ***Visceral-internal organs, hollow viscera***
- ***Responds to opioid and non-opioid analgesics***

Neuropathic pain

From stimulation of damaged or compromised nerve tissue

- ***Responds to opioid and non-opioid analgesics AND adjuvant medications***

be repeated over time; the 0 to 10 is commonly used in many medical settings, and in some hospitals this scale or similar ones are now being used for routine pain assessment by nursing staff as a “fifth vital sign.”¹³ (Figure 1).

Type of pain

Pain is classified in two major categories: nociceptive and neuropathic pain.¹⁴

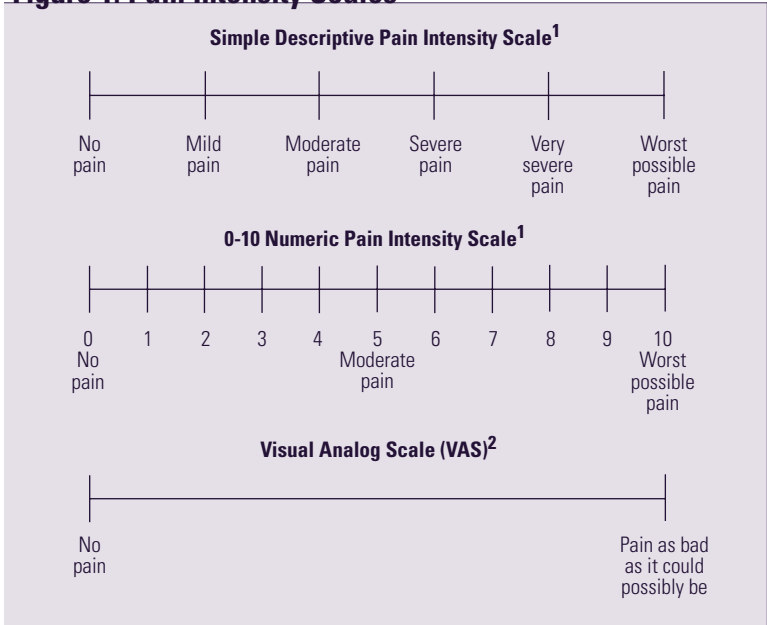
Nociceptive pain

Nociceptive pain derives from the stimulation of intact “nociceptors” or pain receptors in afferent nerves, and is further subdivided into *somatic* (involving skin, soft tissue, muscle, and bone) and *visceral* (involving internal organs and hollow visceral) pain. Nociceptive pain may be well-localized (common in somatic pain) or more diffuse (common in visceral pain), and may be

Neuropathic pain

Neuropathic pain involves stimulation of damaged or compromised nerve tissue, and may be burning, tingling, stabbing, shooting, with a sensation of electric shock, or allodynia (the sensation of pain or discomfort produced by a minimal stimulus such as light touch to the skin). The differentiation of pain into one of these sub-types (particularly

Figure 1. Pain Intensity Scales



1 If used as a graphic rating scale, a 10 cm baseline is recommended.

2 A 10cm baseline is recommended for VAS scales.

Source: Jacox, A., et al, Management of Cancer Pain, AHCPR, U.S. DHHS 1994

nociceptive vs. neuropathic) can be helpful in the determination of appropriate therapy.

Subjective nature of pain

It must be noted that pain is a subjectively experienced phenomenon, and that, unlike with blood pressure or heart rate, there is no standard objective measurement that can be made by an observer to assess pain in a patient. The need to rely on patients' self-reports of pain may be particularly difficult for some providers, who may be concerned

about the potential for prescription abuse and drug seeking. While this concern is understandable, it should be noted that drug users have been found to be very reliable informants concerning their drug use practices in a wide range of published studies on HIV risk behaviors. Similarly, it has not been shown in any empirical research that drug users' self-reports of pain are systematically biased. While clinicians should carefully evaluate and assess the credibility of any patient's self-report of pain, they should not summarily dismiss or discount substance users' self-reports of pain as necessarily indicating manipulative or drug-seeking behavior. When they do so, they take the implicit position described above which effectively means that a diagnosis of substance use disqualifies a patient from having his or her pain taken seriously and treated effectively.

Finally, it should be mentioned that in addition to the likely reliability of substance users' self-reports of pain, they may in fact have a lower pain threshold than non-substance dependent populations. In one study, for example, it was recently shown that patients on methadone maintenance had a lower threshold for pain using a cold-pressor test than non-methadone maintained controls, implying that a sensitization to pain receptors in the central nervous system by chronic opioid use may leave such patients more vulnerable to painful stimuli.¹⁴ Along with the phenomenon of tolerance, discussed above, this implies that, instead of having their pain under-treated or even ignored, such patients may indeed be in even greater need of strong analgesics at higher-than-usual doses in order to treat their pain effectively.¹⁵ This will be discussed in more detail below.

Treatment of Pain

The steps in treating pain are choosing analgesics, addressing possible side effects, considering adjuvant drugs, and considering the implications for substance-using patients.

Choosing Analgesics

Once a thorough assessment has been made, the decision to treat pain can proceed by following simple and straightforward guidelines. The World Health Organization has developed a three-step 'ladder' for treating mild, moderate, and severe pain. (Figure 2).¹³

Mild pain

The first step involves the use of non-narcotic analgesics, including non-steroidal anti-inflammatory drugs (e.g., ibuprofen, naproxen, indomethacin, the newer cox-2 inhibitors, and acetaminophen), (Table 4). Drugs in this category are commonly the first choice for pain intensity up to 4 on the 0 to 10 scale.

Moderate pain

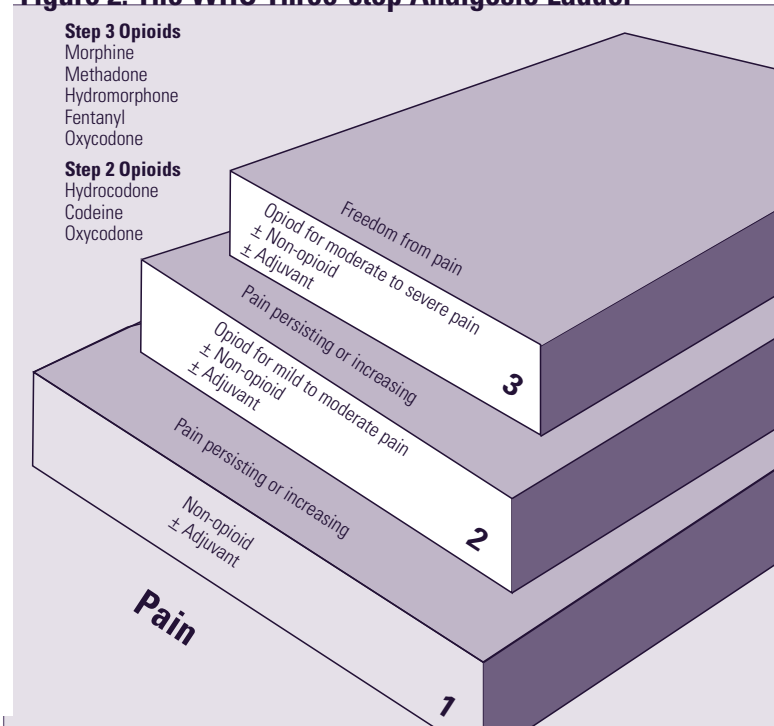
The second step involves the use of weak narcotic analgesics with or without the use of one of the step one agents (e.g., codeine, hydrocodone, or oxycodone, with or without ibuprofen or acetaminophen). This step is usually the first choice for pain intensity from 4 to 6 on the 0 to 10 scale.

For moderate or severe pain, it is not necessary to start with step one agents and then wait for them to fail before moving to a stronger class of analgesics.

Severe pain

The third step involves the use of strong opioids (e.g., morphine, oxycodone, hydromorphone, methadone, fentanyl), again with or without non-narcotic analgesics. These agents are generally reserved for pain of 7 and above on the 0 to 10 scale. As a general rule, the drugs in a particular class should be increased to their maximum therapeutic dosage levels before moving to the next, stronger category of analgesics. For moderate or severe pain, it is not necessary to start with step one agents and then wait for them to fail before moving to a stronger class of analgesics.

Figure 2. The WHO Three-step Analgesic Ladder



Source: Jacox, A., et al, Management of Cancer Pain, AHCPR, U.S. DHHS 1994

It should be noted that meperidine (Demerol) is not included on the standard list of opioid analgesics in the WHO ladder system. As indicated in the equi-analgesic dosage chart, meperidine is a very weak analgesic, approximately one-seventh as strong as morphine. In addition, it is metabolized to a toxic metabolite, normeperidine, which has no analgesic properties and is neurotoxic to the central nervous system.

Table 4. Dosing data for Acetaminophen (APAP) and NSAIDs

Drug	Usual dose for adults
Acetaminophen and over-the counter NSAIDs	
Acetaminophen	650 mg q 4 h 975 mg q 6 h (maximum 4 gm/day)
Aspirin	650 mg q 4 h 975 mg q 6 h
Ibuprofen	400-600 mg q 6 h
Selected Prescription NSAIDs	
Choline magnesium Trisalicylate	1,000 – 1,500 mg tid
Choline salicylate	870 mg q 3 – 4 h
Diffunisal	500 mg q 12 h
Fenoprofen calcium	300-600 mg q 6 h
Ketorolac	10 mg q 4 – 6 h to a maximum of 40 mg/day
Mefenamic acid	250 mg q 6 h
Naproxen	250 – 375 mg q 6 – 8 h
Naproxen sodium	275 mg q 6 – 8 h
Cox-2 Inhibitors	
Celecoxib	100 mg q 12 h
Rofecoxib	12.5 – 25 mg qd
Parenteral NSAIDs	
Keterolac	60 mg initially, then 30 mg q 6 h intramuscular dose not to exceed 5 days

Source: Jacox A, et al. Management of Cancer Pain. AHCPR, U.S. DHHS, Public Health Service, 1994.

Moreover, the toxic metabolite has a longer half-life than the analgesic compound, so that even in order to obtain analgesia, there is a low dose ceiling. For these reasons, despite some of the preferences for meperidine among certain providers and patients, based on longstanding patterns of use, there is no pharmacologic rationale for using meperidine for analgesia, and many palliative care programs are seeking to have the drug removed from standard hospital analgesic formularies.

Addressing side effects

Opioid analgesics may produce side effects; the most common ones include constipation, nausea and vomiting, and sedation. Other unpredictable side effects may also need to be addressed.

Constipation

Constipation may be effectively prevented and/or treated with a bowel stimulant and/or stool softener. An effective combination is senna plus docusate which is formulated in a combined capsule (e.g., Senekot-S), that should be given at the start of opioid therapy to help prevent constipation and may be used in higher doses to treat symptoms if they develop.

Nausea and vomiting

Nausea and vomiting may be effectively treated through the use of one of the anti-dopaminergic anti-emetics, i.e., prochlorperazine, promethazine, or metaclopramide.

Sedation

Sedation may occur soon after the onset of therapy and usually diminishes within days. More prolonged sedation may be an indication of too high an opioid dose. In non-substance-using patients, the use of a low-dose psychostimulant (e.g., methylphenidate) is an effective interven-

tion for opioid-induced sedation; this may also be considered in substance users, although the potential for abuse also exists.

Less predictable side effects

Some of the side effects of opioids may vary for individual drugs within the class, and patients' responses may be unpredictable. For patients in whom side effects or lack of treatment response indicates the need to change to another opioid, it is a common practice to use the strategy of "opioid rotation," by changing from one agent to another. It is important to be aware of the standard equi-analgesic dose conversions (Table 5). In addition, however, it is important to recognize that due to the phenomenon of *incomplete cross-tolerance*, one should always start with about 50% of the calculated equivalent dose, with rapid build-up of the new drug as needed, to avoid unintentional over-dosage.

Respiratory depression, which is the side effect most often feared by providers reluctant to prescribe opioids, does not tend to occur until after sedation occurs. Patients on therapy also quickly become tolerant to the respiratory depressant effects of opioids. When opioids are administered together with benzodiazepines or other central nervous system depressants, however, the additive respiratory depression may become more pronounced and should be anticipated.

Lastly, and particularly in a population at high risk for underlying liver disease such as substance users, it is important not to expose patients to undue risk from acetaminophen hepatotoxicity. Since acetaminophen is commonly included with codeine or oxycodone in fixed-drug combination tablets, it is possible for patients to ingest a significant amount of acetaminophen as a consequence of routine analgesic dosing. In fact, it is often the total daily amount of acetaminophen (less than 4 grams per day) that is the limiting factor in dose-escalation involving

Table 5. Dose Equivalents for Opioid Analgesics in Opioid-Naïve Adults \geq 50 kg

Drug	Approximate Equianalgesic Dose	
	Oral	Parenteral
<i>Opioid Agonist</i>		
Morphine	30 mg q 3-4 h (repeat around-the-clock dosing) 60 mg q 3-4 h (single dose or intermittent dosing)	10 mg q 3-4 h
Morphine, controlled-release (MS Contin, Oramorph)	90-120 mg q 12 h	N/A
Hydromorphone (Dilaudid)	7.5 mg q 3-4 h	1.5 mg q 3-4 h
Levorphanol (Levo-Dromoran)	4 mg q 6-8 h	2 mg q 6-8 h
Meperidine (Demerol)	300 mg q 2-3 h	100 mg q 3 h
Methadone (Dolophine, other)	20 mg q 6-8 h	10 mg q 6-8 h
Fentanyl, Transdermal (Duragesic)	N/A	N/A

Drug	Approximate Equianalgesic Dose	
	Oral	Parenteral
<i>Combination Opioid/NSAID Preparations</i>		
Codeine (with aspirin or acetaminophen)	180-200 mg q 3-4 h	130 mg q 3-4 h
Hydrocodone (in Lorcet, Lortab, Vicodin, others)	30 mg q 3-4 h	N/A
Oxycodone (Roxicodone, also in Percocet, Percodan, Tylox, others)	30 mg q 3-4 h	N/A
Drug	Usual Starting Dose for Moderating Severe Pain	
	Oral	Parenteral
<i>Opioid Agonist</i>		
Morphine	30 mg q 3-4 h	10 mg q 3-4 h
Morphine, controlled release (MS Contin, Oramorph)	90-120 mg q 12 h	N/A
Hydromorphone (Dilaudid)	6 mg q 3-4 h	1.5 mg q 3-4 h
Levorphanol (Levo-Dromoran)	4 mg q 6-8 h	2 mg q 6-8 h
Meperidine (Demerol)	N/R	100 mg q 3 h

Drug	Usual Starting Dose for Moderating Severe Pain	
	Oral	Parenteral
<i>Opioid Agonist</i>		
Methadone (Dolophine, other)	20 mg q 6-8 h	10 mg q 6-8 h
Fentanyl, Transdermal (Duragesic)	N/A	25 mcg/hr*
Drug	Usual Starting Dose for Moderating Severe Pain	
	Oral	Parenteral
<i>Combination Opioid/NSAID Preparations</i>		
Codeine (with aspirin or acetaminophen) 60 mg q 3-4 h	60 mg q 3-4 h (IM/SC)	60 mg q 2 h (IM/SC)
Hydrocodone (in Lorcet, Lortab, Vicodin, others)	10 mg q 3-4 h	N/A
Oxycodone (Roxicodone, also in Percocet, Percodan, Tylox, others) 10 mg q 3-4 h	10 mg q 3-4 h	N/A
*NOT a dose-equivalent amount for other equi-analgesic doses listed in the table. Should not be used in opioid-naïve patients. Starting dose equivalent to 45-134 mg total daily oral morphine dose.		
Source: Jacox A, et al. Management of Cancer Pain. AHCP, U.S. DHHS, Public Health Service, 1994.		

these fixed-drug combinations. In patients with chronic hepatitis B, C, or alcoholic liver disease with or without cirrhosis, it may be necessary to limit the amount of acetaminophen exposure even further.

Considering adjuvant drugs

For neuropathic pain and in some other chronic pain syndromes, the use of adjuvant drugs together with analgesic agents can be very effective in relieving symptoms. The adjuvant drugs include tricyclic anti-depressants, anti-convulsants, and certain other centrally acting agents. These drugs are not technically analgesics, but work well together with both opioid and non-opioid analgesics to treat neuropathic pain (Table 6). For some of these agents (e.g., amitriptyline, carbamazepine, valproic acid), it is important to monitor therapeutic drug levels, and be aware of other possible toxicities that may be important in substance users (e.g., hepatotoxicity, drug interactions with methadone and other opioids, etc.).

Implications for substance-using patients

For the treatment of pain in substance users, it is important to apply all of the above-mentioned principles and assessment tools, while also being attentive to the implications for abuse and relapse. As noted, we do not have the luxury of simply dismissing substance users' reports of pain as being false or manipulative. Even when this impulse is motivated by concern about contributing to relapse, it must be remembered that untreated pain is itself a powerful trigger for drug use in a person with a past history of drug use.

Using the least-tempting alternative

At the same time, it is also important not to use narcotics inappropriately and unnecessarily in this population. Reports of pain should be evaluated seriously and carefully, and when a decision is made about therapy, one should always opt for the least tempting "alternative":

Table 6. Adjuvant Analgesic Drugs for Neuropathic Pain

Drug	Approximate adult daily oral dose range
Anticonvulsants	
Carbamazepine	200 – 1600 mg
Gabapentin	900 – 1800 mg
Phenytoin	300 – 500 mg
Antidepressants	
Amitriptyline	25 – 150 mg
Doxepin	25 – 150 mg
Imipramine	20 – 100 mg
Trazodone	75 – 225 mg
Benzodiazepines	
Clonazepam	1.5 – 6 mg
Source: Jacox A, et al. Management of Cancer Pain. AHCPR, U.S. DHHS, Public Health Service, 1994.	

avoid using a stronger and more readily abused drug if an alternative is available that is less likely to be abused. For example, codeine is weaker, less euphorogenic, more constipating, and with lower 'street value' than oxycodone or hydromorphone. Although not a firm rule, long-acting drugs tend to be less likely to be abused than short-acting ones, and certain formulations (e.g., the transdermal fentanyl patch, which is applied to the skin and changed every 72 hours) may be less prone to abuse than others (e.g., brand-name oxycodone pills, which have a higher 'street value' than generic oxycodone).

Using the necessary delivery system

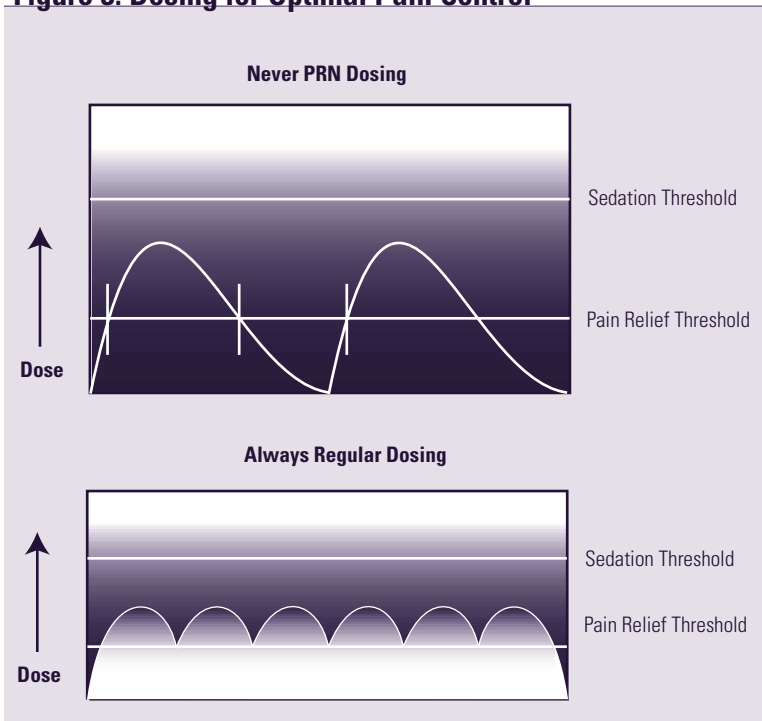
While there is legitimate concern about the use of indwelling venous catheters in substance users, due to the potential for misuse (i.e., by self-injection through the catheter), these delivery systems are sometimes necessary, and should be used with the understanding between patient and provider that such treatment will not be continued if there is any sign of abuse of the catheter. In some instances, the use of a percutaneous continuous infusion pump—i.e., not an intravenous device, but rather a small-gauge butterfly needle inserted subcutaneously, connected to a reservoir containing the medication—provides the mechanism to deliver medication parenterally without incurring the potential risks of intravenous catheter misuse. In such systems, as with intravenous catheters, it is also possible to control the amount of narcotic being administered by setting the infusion rate and limiting the number and amount of bolus doses that can be given over a specified period of time. These “patient controlled analgesia” (PCA) devices allow the patient some degree of latitude in using bolus doses for breakthrough pain, but do not allow changing of the baseline infusion rate nor bolus parameters by the patient.

Understanding the effects of tolerance

Once one decides to use an opioid to treat pain in a substance user, especially one with a history of recent opioid use, it is critical to remember the concepts of ***tolerance and physical dependence*** noted above. This implies that when one prescribes opioid drugs in someone who is likely to be tolerant, one needs to use higher doses given at more frequent intervals than in a patient who is not tolerant. This may be counter-intuitive to providers who are reluctant to use opioids at all in this population, for all the reasons listed above, but without this approach it is guaranteed that patients will not experience effective pain relief. In fact, in these instances, patients’ legitimate requests for increased dosage or more frequent administration of narcotics may

represent lack of efficacy as predicted by the pharmacokinetics rather than manipulateness. As indicated in Figure 3, the goal is to achieve pain relief by exceeding the threshold for analgesia while stopping short of the threshold for sedation. This is accomplished by using high enough doses administered frequently enough to produce steady analgesia, often by prescribing analgesics around-the-clock for chronic pain instead of 'prn.'

Figure 3. Dosing for Optimal Pain Control



Source: Mount Sinai Hospital/Casey House Hospice HIV/AIDS Palliative Care Model, 1995

Deciding on the length of treatment

Once pain is adequately controlled, the decision should be made whether analgesia needs to be continued or not; this mostly depends on whether the pain syndrome is believed to be time-limited or chronic. While one should always continue to re-assess the patient's need for ongoing analgesic therapy, in many cases of chronic pain there is low likelihood that the underlying source of pain will resolve. In these cases, one needs to prescribe long-term analgesic therapy, and it is advisable, once the pain is controlled, to convert to a long-acting regimen consisting of either controlled-release opioids (e.g., sustained-release oxycodone or morphine, usually given twice daily), or the transdermal fentanyl patch, which is changed every 72 hours. In such cases, it is also common to prescribe additional quantities of short-acting narcotics for *breakthrough pain*, e.g., oxycodone or morphine sulfate. (See below regarding strategies to minimize abuse for chronic opioid prescription.)

Reducing The Potential For Opioid Abuse

A number of simple common-sense strategies have been employed to minimize the abuse potential of prescribed opioids in substance-using patients. These include choosing the "least tempting alternative" as described above, but also adopting strategies to minimize manipulation of prescriptions.

Strategies to Minimize Manipulation of Prescriptions

- Making only one provider responsible for prescribing controlled substances,
- Prescribing generic and non brand-name drugs,
- Dispensing a fixed amount of medication on a fixed renewal schedule once pain is controlled, with no refills ahead of schedule,

- Making it clear to patients that prescriptions reported “lost” or “stolen” will not be replaced,
- Prescribing small amounts of medication at a time if necessary,
- Insisting that only one pharmacy be used for all prescriptions,
- Generating a written treatment agreement, signed by patient and provider, specifying mutual responsibilities and the consequences for violations of the agreement (which may include the provider’s refusal to continue to prescribe narcotic analgesics), and
- Employing periodic random urine toxicology testing.

Setting limits in this way gives patients the clear message that their pain is being taken seriously, but that their substance use history is also being considered and that there will be consequences for abuse of the agreement. Throughout this process, involvement of the treating medical provider with substance abuse treatment resources can be very important in coordinating treatment and preventing abuse and relapse. As always in working with this population, a multi-disciplinary approach that emphasizes teamwork and consistency is also critical to success.^{4, 17}

With appropriate limit setting and a coordinated, consistent approach, one is frequently able to treat pain successfully in substance users. However, despite best efforts, this is sometimes not the outcome. It is important for clinicians to be vigilant to potential signs of abuse among substance-using patients for whom narcotics are being prescribed, so that appropriate interventions can be taken, which may ultimately include the decision to no longer prescribe these drugs if no other option is available. Table 7 summarizes some of these behaviors and circumstances. It is critical to work closely with substance abuse treatment and mental health professionals to maximize the likelihood of a successful outcome in treating both pain and the co-morbid pathology of substance abuse.

Table 7. Spectrum of Aberrant Drug-Related Behaviors Occurring During Treatment with Narcotic Analgesics

More suggestive of addiction	Less suggestive of addiction
<ul style="list-style-type: none"> ■ Reports of “lost” or “stolen” prescriptions ■ Selling prescription drugs ■ Prescription forgery ■ Stealing drugs from others ■ Injecting oral formulations ■ Obtaining prescription drugs from nonmedical sources ■ Concurrent abuse of alcohol or illicit drugs ■ Repeated dose escalations or similar noncompliance despite multiple warnings ■ Repeated visits to other clinicians or emergency rooms without informing the prescriber ■ Drug-related deterioration in function at work, in the family, or socially ■ Repeated resistance to changes in therapy despite evidence of adverse drug effects 	<ul style="list-style-type: none"> ■ Aggressive complaining about the need for more drugs ■ Drug hoarding during periods of reduced symptoms ■ Requesting specific drugs ■ Openly acquiring similar drugs from other medical sources ■ Occasional unsanctioned dose escalation or other noncompliance ■ Unapproved use of the drug to treat another symptom ■ Reporting psychic effects not intended by the clinician ■ Resistance to a change in therapy associated with tolerable adverse effects ■ Intense expressions of anxiety about recurrent symptoms
<p>Source: Passik SD, Portenoy RK. Substance Abuse Issues in Palliative Care. In: Berger A, editor. Principles and Practice of Supportive Oncology. Philadelphia: Lippincott Raven Publishers, 1998: 513-529.</p>	

Special Considerations for Specific Populations

Methadone-maintained patients and HIV-infected patients each present a specific sets of concerns related to pain management.

Special Considerations In Methadone-Maintained Patients

When using narcotic analgesics to treat pain in methadone-maintained patients, it is important to be aware of several considerations:

1. When used as maintenance therapy for opioid addiction, methadone has no significant analgesic effects.
2. It is legal and appropriate practice to prescribe narcotic analgesics to opioid-dependent patients such as those on methadone maintenance, provided that this is clinically indicated AND that appropriate limits and safeguards are in place (see previous section). These include close coordination between the pain management and substance abuse treatment teams and clear documentation of all interventions, prescriptions, outcomes, etc. In some cases, as noted above, a treatment agreement is written and signed by the treating physician and the opioid-dependent patient which stipulates the terms under which narcotic analgesics will be prescribed and outlines the consequences of breaches of the agreement. (It is NOT legal for providers to prescribe methadone for the purpose of treating addiction, however, outside of a licensed methadone maintenance treatment program.)¹⁸⁻²¹
3. Due to opioid tolerance, this patient population is clearly needs higher and more frequent doses of narcotic analgesics than the non-tolerant populations, once the decision to use these agents is made. These analgesic drugs should be given *IN ADDITION* to the patient's daily methadone maintenance dose, which should not be changed. There is NO rationale for simply increasing the daily methadone dose in the hope of treating pain; when used as an analgesic agent, methadone needs to be dosed three to four times daily.

4. While methadone is itself an excellent opioid analgesic for severe pain when dosed appropriately (e.g., tid or qid oral dosing, or by continuous sub-cutaneous or intravenous infusion pump), its use in this population generally leads to too much confusion, miscommunication, and potential for abuse to warrant its use as an analgesic.

Table 8. Pain Management in Methadone-Maintained Patients

- Methadone used as daily maintenance therapy for opioid addiction has no significant analgesic effects. **It is legal and permissible to prescribe opioid analgesics to narcotic-addicted patients for the treatment of pain if these opioids are clinically justified and prescribed with appropriate documentation and precautions to prevent abuse.** In methadone-maintained patients receiving opioid analgesics, these opioids should be given **in addition** to the daily maintenance dose of methadone.
- Due to opioid tolerance, it is generally necessary to use **higher and more frequent** doses of opioid analgesics in methadone-monitored patients compared with non-tolerant patients.
- Methadone is an excellent opioid analgesic agent when used to treat pain (e.g., tid or qid dosing), but due to possible therapeutic confusion, miscommunication, and regulatory issues, it is preferable to use another opioid when this class of analgesic is required in methadone-maintained patients.
- In inpatients or homebound patients with chronic severe pain, in the end stages of terminal illness, patients' entire opioid analgesic dose plus the daily methadone maintenance dose may be converted into a continuous subcutaneous or intravenous infusion of parenteral methadone or another opioid as clinically indicated.

5. For in-patients or those who are homebound, with chronic severe pain, and especially in the end stages of progressive, incurable illness, it may, in fact, be appropriate to convert the patient's entire daily analgesic dose plus the daily maintenance dose into a single daily opioid dose delivered by continuous intravenous or subcutaneous infusion pump. (The opioid can be methadone or another opioid.) (Table 8).

Special considerations in HIV infected patients

The growing pharmacopoeia of HIV medications has resulted in the need to anticipate and manage complex drug interactions between these medications and others used in the treatment of patients with HIV infection.²² Most of the important interactions involve the cytochrome P-450 system in the liver, which is responsible for the metabolism of many drugs. Certain anti-retroviral medications inhibit the P-450 system, and thus may result in the decreased metabolism of drugs that are substrates for this system, i.e., levels of these compounds may increase. Examples of these anti-retroviral medications include the protease inhibitors ritonavir (the most potent P-450 inhibitor), indinavir, nelfinavir, saquinavir, and amprenavir, and the non-nucleoside reverse transcriptase inhibitor delavirdine. Other anti-retroviral medications act as inducers for the P-450 system, and thus may result in the accelerated metabolism of the substrate compounds and therefore lower blood levels. Examples of these medications include the non-nucleoside reverse transcriptase inhibitors efavirenz and nevirapine (Table 9).

Many opioids are metabolized by the P-450 system, mostly as substrates. Therefore, it is important to be aware of possible drug interactions that might be predicted by the use of opioids together with the anti-retroviral medications that function as inhibitors or inducers of this

Table 9. Potential Drug Interactions between Anti-Retroviral and Analgesic Medications in Patients with HIV Infection*

Cytochrome P-450 Inhibitors	Cytochrome P-450 Inducers	Cytochrome P-450 Substrates
Ritonavir* Indinavir Nelfinavir Saquinavir Amprenavir Lopinavir	Efavirenz Nevirapine	Methadone Morphine Codeine Meperidine + Other Opioids
<p>* The most potent P-450 inhibitor + Contraindicated with Ritonavir</p> <p>Source: Piscitelli SC, Gallicano KD. Drug Therapy: Interactions among Drugs for HIV and Opportunistic Infections. N Eng J Med 2001; 344: 984-996.</p>		

enzyme system. Some of the opioids that have been identified as important substrates of the P-450 system include morphine, codeine, methadone, and meperidine (which is in fact contraindicated for use with ritonavir due to the inhibition of meperidine metabolism by ritonavir). When used together with inducers—e.g., nevirapine or efavirenz—it is likely that higher-than-expected opioid doses may be necessary due to the accelerated metabolism of the opioid substrates. When used together with inhibitors—e.g., ritonavir and other protease inhibitors—it may be expected that the substrate drugs may accumulate to a greater degree than would happen otherwise, and dose escalations should be undertaken carefully. However, it has also been noted that in some cases the pathways are not as predictable as the simple

inhibitor/inducer concept would suggest, and there may be additional, complex feedback pathways involved. The important point for providers is that these drugs can be used safely and effectively together, but one must be aware of and attentive to the possibility of drug interactions that may affect the choice and dosing of particular medications.

Conclusion

Through the use of common sense and an awareness of the simple clinical issues discussed in this chapter, it is possible to identify and treat pain in substance users successfully. Moreover, it is possible to accomplish this in a way that is neither punitive nor enabling, which sets limits but is not without empathy. Meeting the challenge of treating chronic pain while also addressing the co-morbidity of substance use is an important task for primary care providers, which calls on their full range of medical and psychosocial skills. It is not acceptable to simply ignore one of these two major diagnoses, which is what happens too often in many medical encounters with substance users; the results are unrelieved suffering, aggravated substance abuse, and frustration and cynicism for providers. By addressing both of these clinical problems in a coordinated, integrated way, we maximize our ability to be effective caregivers to a sometimes-challenging population, with outcomes that can be satisfying and positive for both patients and providers.

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CHAPTER 7: THE CASE FOR DRUG DEPENDENCE AS A CHRONIC MEDICAL ILLNESS

A. Thomas McLellan, PhD¹

UNIVERSITY OF PENNSYLVANIA

TREATMENT RESEARCH INSTITUTE IN PHILADELPHIA

Herbert D. Kleber, MD³

David Lewis, MD⁴

Charles P. O'Brien, MD, PhD²

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From

1 The Treatment Research Institute,

2 The Penn-VA Center for Studies of Addiction at the University of Pennsylvania,

3 Columbia University; and

4 The Brown University Center for Alcohol and Addiction Studies

Reprint Requests to A. Thomas McLellan C/O Treatment Research Institute,
150 South Independence Mall West (Suite 600), Philadelphia PA 19106-3475

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Introduction

Large and disturbing *social* problems in this country can be traced directly to drug dependence. A recent study¹ estimated that alcohol abuse and dependence cost American society approximately \$90 billion and that abuse of other drugs costs approximately \$67 billion each year. The National Institute on Justice reported that of the more than one million prisoners in federal institutions this year, more than 60% were incarcerated for crimes that were connected with drug use.² No less significant is the fact that more than three fourths of all foster children in this country are the offspring of alcohol and/or drug dependent parents.³ Finally, the current efforts toward reducing the welfare rolls and fostering employment are hampered by drug and alcohol dependence problems among those remaining on welfare.⁴

These pervasive and expensive effects of drug dependence on all social systems in our country have been important in shaping the public view that drug abuse is primarily a “social problem” rather than a “health problem.” Much of the general public and those in the health

care field have come to believe that drug dependence is essentially self-indulgent, voluntary behavior for which individuals should take personal responsibility. From this perception have come the public view and the social policy that drug addiction should be dealt with through interdiction efforts (to keep drugs out of the country) and through law enforcement measures (to catch and punish those who become involved with drugs).

But is there a place for medical treatment in the social policy toward drug addiction? There has been little support from the public at large for the view that addiction is a medical disorder or health care problem. Perhaps more importantly, there has been little support within the medical community for drug addiction treatment. For example, it has been repeatedly documented over the past three decades that the majority of physicians do not screen patients for alcohol or drug use during routine examinations.⁵ This is not surprising, given that a majority of general practice physicians and nurses believe that none of the currently available medical or health care interventions would be appropriate or effective.^{6,7} This view appears to be supported by the fact that 40% to 60% of addicted individuals who receive treatment return to substance use within a year.^{8,9}

One implication is that these disappointing results confirm the suspicion that drug dependence is not a medical illness and thus not significantly affected by health care interventions. Another possibility is that current treatment strategies and outcome expectations view drug dependence as a curable, acute condition. If drug dependence is more like a chronic illness, the appropriate standards for treatment and outcome expectations would be found among other chronic illnesses.

Background

To explore the possibility that drug dependence can be treated as a chronic illness, we conducted a literature review comparing drug dependence with three chronic illnesses: adult-onset diabetes, hypertension, and asthma. These examples were selected because they have been well studied and are widely believed to have "effective" treatments, though they are not yet curable.

The assumptions and limitations of the review

To explore these questions, we began with the assumption that if drug dependence is a "disease," it must be a chronic one with a variable course and no known cure. Given this assumption, the first part of the paper examines the clinical presentation of drug dependence from a medical perspective, as a physician might approach it if he or she were evaluating a previously unknown "condition." If drug dependence is really a disease, there should be clear diagnostic criteria differentiating the disorder of "dependence" from simply excessive substance use. If drug dependence were like other chronic diseases, there might be evidence for genetic heritability as well as measurable pathophysiology and a predictable course of illness. To structure our examination of these issues, we looked for parallels in etiology, presentation, and course between substance dependence and the three comparison illnesses.

Regardless of whether there are parallels between the etiology and course of addiction and other chronic illnesses, it is clear that diabetes, hypertension, and asthma have been responsive to medications and related health care treatments. Can medications and medical care have any impact on drug dependence? Even if health care initiatives can be shown to have an effect, is this greater than would be expected from

normal variability in untreated cases? Thus, the second part of the paper reviews recent advances in the medical treatment of drug dependence, including the development of new medications and studies comparing treated and untreated samples. Here we accepted as “effective” only those treatments that produced *both* reduction of drug use *and* improved functional status in the primary patient, since these standards of effectiveness have been suggested for other diseases by Stewart and Ware in their national Medical Outcomes Study. Using these standards of outcome evaluation, we consider the question of whether treatments for drug dependence produce results that are comparable to those seen in other, chronic medical illnesses such as diabetes, hypertension or asthma.

Finally, it should be noted that we have decided to focus primarily upon illegal and illicitly prescribed drug use - because public opinion and public policy are most divided regarding these drugs. While nicotine and alcohol are the largest, most deadly, and most costly drug problems in our society, we have made reference to these addictions only as they pertain to illicit drug dependence.

The Clinical Presentation of Drug Dependence

In order to compare drug dependence to the three chronic comparison illnesses, we will examine its diagnosis, heritability, onset and course, and pathophysiology.

Diagnosis

Most adults have “used” alcohol and/or other drugs—sometimes heavily to the point of “abuse”—but rarely to the point where that use could reasonably be called an “illness.” There is no laboratory test for dependence, but the diagnostic differentiation of “use,” “abuse,” and

"dependence" has been operationally refined and repeatedly shown to be reliable and valid over the past fifteen years.^{11,12}

Defining dependence

"Dependence" is defined as a pathologic condition manifest by three or more of seven criteria.¹¹ Two of these criteria - tolerance and withdrawal - indicate neurological adaptation, or so-called "physiological dependence." However, as has been pointed out¹², physiological adaptation (tolerance or withdrawal) by itself is neither necessary nor sufficient for a diagnosis of substance dependence. Indeed, those receiving a dependence diagnosis are required to show a "...compulsive desire for, and use of the drug(s) despite serious adverse consequences...", such as "...use instead of, or while performing important responsibilities..."^{11, 12}

There are several short (taking less than 5 minutes of patient or practitioner time) questionnaires that can screen for alcohol and other drug dependence disorders with high rates of sensitivity and specificity.¹³ Following a positive screen, standardized diagnostic checklists can be applied in the course of a normal physician examination. Diagnoses resulting from these standardized and easily applied criteria have been reliable and valid across a range of clinical and non-clinical populations.¹³

Genetic heritability

One of the best methods for estimating the level of genetic contribution is to compare the rates of a disorder in monozygotic and dizygotic twins.

Heritability studies on twins

Heritability estimates (H2) from twin studies of hypertension range from .25 – .50 depending upon the sample and the diagnostic criteria used.^{14,15} Twin studies of diabetes offer heritability estimates of approximately .80 for Type 2 and .30 – .55 for Type 1 diabetes. Finally, twin studies of adult-onset asthma have produced a somewhat broader range of heritability estimates, ranging from .36 to .70.^{18,19}

Several twin studies have been published in the substance dependence field, all showing significantly higher rates of dependence among twins than among siblings; and higher rates among monozygotic than dizygotic twins.²⁰⁻²³ A recent twin study of heroin dependence produced a heritability estimate of .34 among males.²⁰ Similar studies of alcohol dependence have produced heritability estimates of .55 to .65 among males.²¹⁻²³ Though there is need for more studies of heritability by drug and by gender, the evidence now suggests significant genetic contribution to the risk of addiction at approximately the same level as for other chronic illnesses.

Onset and course of illness

Since the use of any drug is a voluntary action, behavioral control or “will power” is very important in the onset of dependence. Thus, at some level, an addicted individual is “at fault” for initiating the behaviors that lead to a dependence disorder. Doesn't this voluntary initiation of the “disease process” set drug dependence apart, etiologically, from other medical illnesses?

There are many illnesses where voluntary choice affects initiation and maintenance of an illness—especially when these voluntary behaviors interact with genetic and cultural factors. For example, among males, salt sensitivity is a genetically transmitted risk factor for the eventual

development of one form of hypertension.^{24,25} However, not all of those who inherit salt sensitivity go on to develop hypertension. This is because the use of salt is determined by familial salt use patterns and individual choice. Similarly, risk factors such as obesity, stress level, and exercise are joint products of familial, cultural, and personal choice factors.^{24, 25} Thus, even among those with demonstrated genetic risk, a significant part of the total risk for developing hypertension can be traced to individual behaviors.

There are also involuntary components embedded within seemingly volitional choices. For example, although the choice to try a drug may be voluntary, the effects of the drug can be profoundly influenced by genetic factors. Those whose initial, involuntary physiological responses to alcohol or other drugs are extremely pleasurable will be more likely to repeat the drug taking than those whose reaction is neutral or negative. Work by Schuckit has shown that sons of alcohol dependent fathers inherit more tolerance to alcohol's effects and are less likely to experience hangovers than sons of non-alcohol-dependent fathers.^{26,27} In contrast, the inherited presence of an aldehyde dehydrogenase gene (associated with alcohol metabolism) causes an involuntary skin "flushing" response to alcohol.²⁸⁻³⁰ Individuals who are homozygous for this allele (approximately 35% of the Chinese population, 20% of Jewish males in Israel) have an especially unpleasant initial reaction to their voluntary alcohol use—to the point where there are virtually no alcoholics found with this genotype.²⁸⁻³⁰

Pathophysiology

The acute effects of alcohol and other drugs have been well characterized. But even a complete understanding of these acute effects cannot explain how repeated doses of alcohol and other drugs produce paradoxically *increasing* tolerance to the effects of those drugs concurrent

with *decreasing* volitional ability to forego the drug. As suggested by Koob and Bloom,³¹ the challenge is to find an internally consistent sequence by which molecular events modify cellular events, and in turn produce profound and lasting changes in cognitions, motivation, and behavior. Research on the neurochemical, neuroendocrine, and cellular changes associated with drug dependence has led to remarkable findings over the past decade, summarized in recent special issues of *Science*, *Lancet*, and the *Institute of Medicine*.³²⁻³⁵ Here we summarize just three areas of investigation.

The effects of addictive drugs on neurochemistry

Addictive drugs have well-specified effects on the brain circuitry involved in the control of motivated and learned behaviors.³¹⁻³⁶

Anatomically, the brain circuitry involved in most of the actions of addictive drugs is the ventral tegmental area connecting the limbic cortex through the midbrain, to the nucleus accumbens.^{35, 36}

Neurochemically, alcohol, opiates, cocaine, and nicotine have significant effects on the dopamine system—although through different mechanisms. Cocaine increases synaptic dopamine by blocking reuptake into pre-synaptic neurons; amphetamine produces increased presynaptic release of dopamine, while opiates and alcohol disinhibit dopamine neurons, producing increased firing rates.³¹⁻³⁶ Opiates and alcohol also have direct effects on the endogenous opioid and possibly the GABA systems.³¹⁻³⁶

Significantly, the ventral tegmental area and the dopamine system have been associated with feelings of euphoria.^{31, 36} Animals that receive mild electrical stimulation of the dopamine system contingent upon a lever press will rapidly learn to press that lever thousands of times, ignoring normal needs for water, food, or rest.³⁶ Cocaine, opiates, and several other addictive drugs produce supra-normal stimulation of this reward circuitry.³¹⁻³⁶ We do not know how much drug use is required

to create these changes or whether these effects ever return to normal. Somatic signs of withdrawal generally last several days; motivational and cognitive impairment may last several months;³³ but the learned aspects of tolerance to the drug may never return to normal.^{35, 36}

Response to Treatment

A central question in the comparison of drug dependence with other illnesses is whether dependence will normalize without treatment and whether it will respond to medications and other forms of medical treatment. There is a large body of literature on drug dependence treatment outcomes^{7-9, 34, 35, 37-39} and the specialty treatment of addiction as described in a manual and two detailed volumes.^{41,42} Space permits only a few examples from that literature, addressing questions of particular importance to physicians: the outcomes of untreated patients, medications indicated for different types of dependence, courses of treatment, and treatments for drug dependence compounded with treatments for other chronic diseases.

Untreated patients

Examinations of untreated dependent persons offer some indication of the natural course of addiction.

HIV infection rates in untreated patients

Metzger, et al. measured the drug use, needle sharing practices, and HIV infection rates of two large samples of opiate dependent patients in Philadelphia. The "In-Treatment" (IT) group included 152 patients randomly selected at admission to a methadone maintenance program. "Out of Treatment" (OT) subjects were also heroin-dependent individuals matched to the IT group on age, race, gender, neighborhood, and other relevant background factors – though none of these 103 OT subjects had received treatment. Both groups were interviewed and test-

ed for HIV status every six months for seven years. At the initial assessment, 13% of the IT sample and 21% of the OT sample were HIV infected. By seven years, 51% of the OT group, but only 21% of the IT group tested HIV positive.⁴³ Of course, even this substantial between-groups difference does not prove that treatment participation was the causal agent. It is likely that the OT subjects lacked the motivation for change found among the treated patients. Lack of desire for personal change, rather than the effects of the treatment itself, could have produced the observed status differences.

Cocaine use during pregnancy in untreated patients

One way to separate the effects of drug dependence treatment from the effects of motivation is to compare treated and untreated substance dependent individuals who were explicitly not interested in treatment. Svikis, et al.⁴⁴ studied drug abuse treatment in 100 pregnant, cocaine-dependent women who did *not* originally apply for treatment. All women had simply applied for prenatal care and were found cocaine-positive on a routine drug screen. They were compared with 46 pregnant, cocaine-positive, demographically matched women, who received standard prenatal care *during the year prior* to the opening of the experimental treatment program. Drug dependence treatment consisted of one week of residential care followed by twice-weekly addiction counseling in the context of the scheduled prenatal visits.

At delivery, 37% of the treated patients tested cocaine-positive, as compared with 63% of the untreated women. Babies of the treated women averaged higher birth weights (2934 gms. vs. 2539 gms.) and longer gestational periods (39 wks. vs. 34 wks.) than those of the comparison group. Following the deliveries, 10% of the babies in the treated group required care in the neonatal intensive care unit (mean length of time: 7 days). In comparison, 26% of the babies in the untreated group required intensive care (mean length of time: 39 days). Average

costs of care were \$14,500 in the treated group and \$46,700 for the comparison group. These data indicate that drug dependent women can be screened and motivated during prenatal care, and that drug dependence treatment can be combined with traditional perinatal medical care in an extremely cost effective manner.

Treatment medications

In addition to medications for nicotine dependence, such as nicotine gum, the patch, and Zyban®, medications for alcohol, cocaine, and opiate addiction have been developed under FDA guidelines, researched in randomized clinical trials, and have reached the market. Here we discuss only a few recent developments, but a complete review has been published by the Institute of Medicine.³⁵

Alcohol dependence

Naltrexone (marketed as Revia®) has also been found effective at 50 mg./day for reducing drinking among alcohol dependent patients. Its mechanism of action appears to be the blocking of at least some of the "high" produced by alcohol's effects on mu opiate receptors. More recently, European researchers have found encouraging results using the GABA agonist accamprosate to block craving and relapse to alcohol abuse. Alcohol dependent patients prescribed accamprosate showed 30% higher abstinence rates at six-month follow-up than those randomly assigned to placebo. Further, those who returned to drinking while receiving accamprosate reported less heavy drinking (five or more drinks) than those receiving placebo.⁴⁷

Stimulant dependence

Even though there are several effective behavioral treatments for cocaine and amphetamine dependence,⁵⁷⁻⁶⁰ no effective medications have yet been developed.³⁵ There are, however, promising animal stud-

ies of a potential vaccine that binds to, and inactivates, active metabolites of cocaine.

Opioid dependence

Opioid agonists, partial agonists, and antagonists are the three primary types of medications available for the treatment of opioid dependence, all acting directly upon opioid receptors, particularly mu-receptors.³⁵

■ ***Agonist***

Agonist medications such as methadone are prescribed acutely as part of an opioid detoxification protocol, or chronically in a maintenance regimen. Double blind, placebo-controlled trials have shown methadone to be effective in both inpatient and outpatient detoxification, although the effects of detoxification alone, without continuing treatment, have been uniformly poor.^{45,46} As a maintenance medication, numerous controlled trials have shown that methadone's oral route of administration, slow onset of action, and long half-life have been very effective in reducing opiate use, crime, and the spread of infectious diseases. The effectiveness of methadone was recently validated by an NIH consensus conference and has been tried with some effectiveness in private, office-based settings.

■ ***Partial agonist***

The partial agonist, buprenorphine, is administered sub-lingually and is active for approximately 24 – 36 hours. Large scale, double-blind, placebo-controlled trials with buprenorphine have shown reductions in opiate use comparable with methadone, but with fewer withdrawal symptoms upon discontinuation of use.⁵⁷ Importantly, the combination medication of buprenorphine plus

naloxone (Suboxone®), designed to reduce risk of injection use, will soon be released for prescription in primary care settings.⁵⁸

■ **Antagonist**

Opioid antagonists, such as naltrexone, block the actions of heroin through competitive binding for 48 – 72 hours, producing neither euphoria nor dysphoria when prescribed to those abstinent from opiates.^{51,63} Naltrexone is also a maintenance medication, designed as an “insurance policy” in situations where the patient is likely to be confronted with relapse risks. Most studies have tested naltrexone in combination with social or criminal justice sanctions to increase adherence. For example, naltrexone is routinely used in the monitored treatment of physicians, nurses, and other professionals. In a recent controlled trial, Cornish and colleagues showed that naltrexone added to standard federal probation produced 70% less opiate use and 50% less re-incarceration than standard probation alone.

Treatments for drug dependence compared with treatments for other chronic diseases

Treating drug dependence comes with difficulties that differ from those encountered in treating other chronic diseases.

Difficulties in treating drug dependence

There is no reliable “cure” for drug dependence. Dependent patients who comply with the recommended regimen of education, counseling, and medication have favorable outcomes during treatment, and for at least six to twelve months afterward.³⁷⁻³⁸ However, many of those who start treatment drop out prior to completion, or they ignore physician advice to remain on medications and to continue participation in after-care or AA. Problems of low socioeconomic status, co-morbid psychi-

atric conditions, and lack of family/social supports are among the most important predictors of poor adherence during addiction treatment, and of relapse following treatment.^{37, 38, 47, 48} One-year follow-up studies have typically shown that only about 40 – 60% of treated patients are continuously abstinent: although an additional 15 – 30% have not resumed dependent use during this period.^{37-42, 62}

Difficulties in treating other chronic disorders

Hypertension, diabetes, and asthma are also chronic disorders, requiring continuing care throughout a patient's life. Treatments for these illnesses are effective, but heavily dependent upon adherence to the medical regimen for that effectiveness. Unfortunately, studies have shown that fewer than 60% of adult, insulin-dependent diabetics fully comply with their medication schedules,⁶⁰ and fewer than 40% of hypertensive or asthmatic patients adhere fully to their medication regimens. The problem is even worse for the behavioral and dietary changes that are so important for the maintenance of gains in these chronic illnesses. Again, studies indicate that fewer than 30% of adult-onset asthma, hypertension or diabetes patients comply with prescribed diet and/or behavioral changes that are designed to increase functional status and to reduce risk factors for reoccurrence of the disorders.⁶³⁻⁶⁶ Across all three of these chronic medical illnesses, compliance, and ultimately outcome, is poorest among patients with low socioeconomic status, low family and social supports, or significant psychiatric co-morbidity.⁶³⁻⁶⁵

Perhaps because of the similarity in treatment adherence, there are also similar relapse rates across these disorders. Outcome studies indicate that 30 – 50% of adult, insulin-dependent diabetics, and approximately 50 – 70% of adult hypertensive and asthmatic patients suffer reoccurrence of symptoms each year to the point that they require additional medical care to re-establish symptom remission.⁶³

Discussion

Few of those who try drugs or even use drugs regularly become “drug dependent.” It is not yet possible to explain the physiological and psychological processes that transform controlled, voluntary use of alcohol and other drugs into uncontrolled, involuntary dependence.

However, nosological research indicates that “dependence is a disorder that can be reliably and validly differentiated from even heavy drug “use.” Twin studies indicate a definite role for genetic heritability of dependence, but not “use.” Nonetheless, personal choice and environmental factors are clearly involved in the expression of dependence. Neuropharmacological and neuro-imaging research indicate that once initiated, there is a predictable pathophysiological course to dependence. Thus, in terms of vulnerability, onset, and course, drug dependence is at least similar to other chronic illnesses such as adult-onset diabetes, hypertension, and asthma.

Our review of treatment response found more than 100 randomized controlled trials of addiction treatments, most showing evidence of significant reductions in drug use, improved personal health and significant cost offset—but not cure.^{7-9, 34, 35, 37-42} There are potent, well-tolerated medications for nicotine, alcohol, and opiates^{35, 55}—but not stimulant dependence. However, as in treatments for other chronic disorders, we found major problems of medication adherence during treatment, and relapse following treatment, among drug dependent patients. In fact, the same patient problems of poverty, low family support, and psychiatric co-morbidity were predictive of non-compliance and relapse across all these disorders.⁶⁷⁻⁷³

However, arguments by analogy are limited. Even if there are elements of similarity between drug dependence and these three chronic illness-

es, these results do not prove drug dependence is an illness. However, these similarities in heritability, course, and, particularly, response to treatment raise the question of why medical treatments are not seen as appropriate or effective when applied to alcohol and drug dependence. One possibility is the way drug dependence treatments have traditionally been delivered and evaluated.

Many drug dependence treatments have traditionally been provided in a manner that is more appropriate for acute care disorders. Contemporary treatment for drug dependence typically consists of an admission to an outpatient, specialty treatment program for 30 – 90 days. The goal has been to *rehabilitate* dependent patients and *discharge* them, as one might rehabilitate a surgical patient following a joint replacement. Outcome evaluations are typically conducted six to twelve months *following treatment discharge*. The usual outcome evaluated is whether the patient has been continuously abstinent *after leaving treatment*.

Imagine this same strategy applied to the treatment of a hypertensive patients. They would be admitted to a 60-day specialty-care program for "hypertension rehabilitation." They would receive group and individual counseling regarding behavioral control of diet, exercise, and lifestyle. Very few would be prescribed medications, since the prevailing view—and the prevailing insurance restrictions—would discourage maintenance medications. Patients completing the program would be discharged to community resources without continued medical monitoring. An evaluation of these patients 6-12 months following discharge would count as "successes" only those who had remained continuously normotensive for the entire post-discharge period.

In this regard, it is interesting that relapse among diabetic, hypertensive, and asthmatic patients *following cessation of medications* has been

considered evidence of the effectiveness of those medications; and the need to retain patients in medical monitoring. In contrast, relapse to drug or alcohol use *following discharge from addiction treatment* has been considered evidence of treatment failure.

Implications

For primary care physicians, this review suggests that addiction screening, diagnosis, brief interventions, medication management, and referral criteria should be taught as part of medical school and residency curricula. Further, there should be efforts to adapt the chronic care and medical monitoring strategies presently used in the treatment of other chronic illnesses to the treatment of drug dependence. In this regard, the best outcomes from standard addiction treatments have been seen among long-term methadone maintained patients and among the many who have continued in long-term AA support.

For those in health policy, our review offers support for recent insurance “parity” initiatives. As in other chronic illnesses, the effects of dependence treatment are optimized when patients remain in continuing care and monitoring—without current limits or restrictions on the number of days or visits covered. Only methadone maintenance for opiate addiction can be considered a chronic care treatment, and, while AA provides continuing care monitoring in a social support setting, it has not been considered formal treatment. It is unknown whether expanded insurance benefits will reduce long-term costs associated with later stages of dependence—or merely increase utilization with no cost offset.

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CHAPTER 8: MANAGEMENT OF HIV/AIDS IN SUBSTANCE USERS

Amar V. Munsiff, MD

ST BARNABAS HOSPITAL

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Introduction

The proportion of new HIV cases in the United States, especially the northeast, with injection drug use as a major risk factor has continued to rise over the last decade.^{1,2} Though overall incidence rates in this population are relatively low (<1/100 person years), a high prevalence of risk behaviors has sustained a stable HIV prevalence in the United States. Injection drug use itself is associated with a relatively high risk of HIV transmission: for example, the number of new HIV cases predicted for 10,000 exposures by needle sharing is 67 compared to 10-30 by sexual intercourse.³ Additionally, most cases of heterosexual and perinatal transmission of HIV are associated with IDU, which continues to drive the epidemic in Latin America, Asia, and Eastern Europe as well. Finally, as highly active antiretroviral therapies (HAART), general medical care, and substance abuse treatments are more widely accessed, the consequent decline in morbidity and mortality will result in a growing population of substance users living with HIV.

The need for medical care of the substance user has increased in large part due to the HIV epidemic. While it is increasingly evident that gaining access to medical care by a HIV-specialist improves outcomes, several studies have also demonstrated that injection drug users (IDUs) with HIV receive less outpatient care and, when in care, are less likely to be offered antiretroviral therapy than other persons with HIV.^{1,4} This is due to a variety of reasons that are rooted in the patient, the clinician, and the health care system.

- Patients themselves bring a set of characteristics that can undermine efforts to provide a sustained, comprehensive treatment program. Many are incarcerated or have a chaotic lifestyle. They may have untreated psychiatric illnesses, co-morbid illnesses, and biases of their own as well as false beliefs about treatments or

providers. They may have continued drug abuse due to the chronic relapsing nature of chemical dependency. Fundamentally, they may mistrust their providers.

- Providers may have misperceptions about substance users' needs and a lack of appreciation of the chronic relapsing nature of chemical dependency. They may have inexperience in co-management of HIV and substance abuse. Furthermore, they may bring their own set of biases and false beliefs, which can yield a lack of trust between them and their patients.
- The health care system may offer inadequate treatment of substance abuse or inadequate facilities. The system may offer insufficient social services or provider expertise. Moreover, there are chronic problems with under-insurance and with fundamental treatment limits, such as the federal limitations on methadone prescriptions.⁴

Components of Comprehensive Treatment

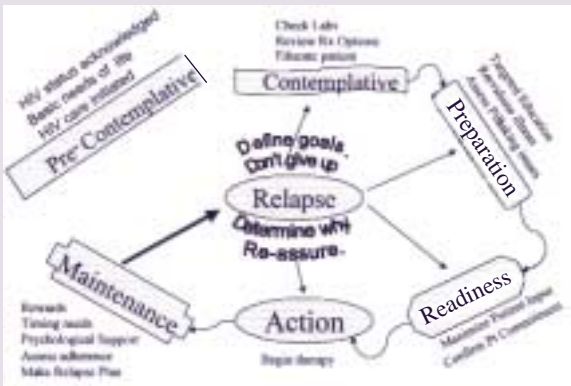
Patients who receive antiretroviral therapy as part of a comprehensive intervention program survive about 30% longer than those who do not have regular case management, irrespective of CD4 counts.⁵ Injection drug use has fueled the HIV epidemic in the United States for twenty years, inviting the development of models for delivery of multi-disciplinary care to substance users.^{6, 7} Some substance abuse treatment centers offer on-site general medical care to patients, whereas others have linkages with primary care providers and HIV specialty clinics.^{8, 9} The key elements of primary care of the HIV-infected individual remain the same irrespective of the delivery system:

- Orientation to services and program policies,
- Evaluation of social service and mental health needs,

- Preventive health care,
- Prophylaxis for opportunistic infections,
- Antiretroviral therapy,
- Harm reduction and partner notification counseling, and
- Medical management of HIV-related illnesses.

The clinical evaluation, when integrated with the psychosocial evaluation, will yield a set of unique care plan options. These options are most feasible when they are prioritized in collaboration with the needs and expectations of each individual, and addressed in a timely fashion so as to not overwhelm the patient. Providing interventions appropriate for the patient’s stage of readiness is most helpful in implementing care plans. This process of defining patients’ health care needs also serves to engage the patient in routine care, and teaches the patient how to access different staff members for specific needs.

Figure 1. Staging the Patient’s Readiness to Change



Orientation to Program Services

The goal of the initial visit is to demonstrate a caring environment for the patient in order to attenuate the fear and denial prominent in persons with a stigmatizing illness, to assess case management and social needs, to assess psychiatric needs, and to stage the extent of HIV disease.

Demonstrate a caring environment

An orientation to the clinic space, procedures, and personnel is helpful not only because patients are often unprepared to correctly navigate the health care system, but also to convey a genuine sense of empathetic concern for the patient's well-being. Particular emphasis should be placed on how to access emergent and non-emergent care.

A frank, nonjudgmental discussion of a myriad of factors (e.g., confidentiality, rules for lost prescriptions and disruptive behavior, walk-in visits, and pain management) influencing the provider-patient relationship should be addressed at this time.

The rationale for a thorough history and physical exam is often unknown to the patient and therefore requires explanation. However, in practice, some historical details may need to be gathered at subsequent encounters.

Assess case management and social needs

Issues surrounding incarceration, domestic violence, and children's services should be identified for appropriate referral and management; their impact on adherence has to be incorporated into a feasible medication schedule. Referral to vocational programs, adult day care, and other structured settings (e.g., physical therapy, skilled nursing facility,

home care services) reinforces the care rendered at the primary site. (See Table 1).

Table 1. Case Management Interventions

Commonly needed services:	Key referrals:
<ul style="list-style-type: none">■ Placement in structured setting (e.g., adult day care, rehab center, skilled nursing facility)■ Counseling■ Procure medical equipment■ Procure medications■ Transportation arrangements■ Coordination of care plan	<ul style="list-style-type: none">■ Division of AIDS Services■ Community-based Case Managers■ Child Welfare Services■ Home Nursing Aide■ Home Health Aide■ Food Assistance (e.g., Meals on Wheels, soup kitchens, churches)■ ADAP, Medicaid■ Vocational Training

At substance abuse treatment centers, much of the psychosocial assessments may be accomplished at intake; whereas, in other general medical clinics, the medical evaluation often precedes case management assessments. It is important to bear in mind that both HIV infection and drug use are highly stigmatized in many communities. Sensitive inquiry of both, illicit drug use and HIV infection, acknowledges each as a major factor in the patient's health, and fosters the provider-patient relationship.

Assess psychiatric needs

Due to the high prevalence of depression, dysthymia, anxiety, and impulse control disorder, the need for psychiatric services should be assessed. Indeed, competence in managing uncomplicated depressive

illnesses, impulse control disorders, and high-anxiety states is desirable for the primary care clinicians providing care for substance users with HIV infection. This process of defining patients' health care needs also serves to engage the patient in routine care, and teaches the patient how to access different staff members for specific needs.

The Initial Visit

The initial medical visit includes a complete social service and medical evaluation (see Table 2). An assessment of the patient's knowledge of

Table 2. Elements of the Basic Evaluation

Clinical Interviews	
<ul style="list-style-type: none"> ■ History and Physical Exam ■ Psycho-social Needs Assessment ■ HIV Prevention Education ■ Adherence Assessment ■ Harm Reduction Counseling ■ Partner Notification Counseling 	<ul style="list-style-type: none"> ■ Domestic Violence Screening ■ Medical Sub-specialty Referrals ■ Case Management Assessment ■ Substance Abuse Counseling ■ Vocational Assessment
Labs and Procedures	
<ul style="list-style-type: none"> ■ HIV Test ■ CBC ■ Chem-7 ■ Liver enzymes ■ RPR ■ HAV IgG ■ HBV sAg, core IgG ■ HCV IgG ■ Toxoplasma Ab 	<ul style="list-style-type: none"> ■ CMV Ab G6PD ■ HIV viral load ■ T-cell subsets ■ PPD ■ PAP ■ GC ■ Chlamydia ■ CXR, if indicated ■ Urinalysis

HIV disease and engagement in his/her healthcare is invaluable to subsequent clinical evaluation and treatment. It can reveal areas requiring education and counseling on a level matched to the patient's education, and lead to a discussion of the patient's expectations for health care. In addition, providers need to test for HIV, assess the presence of other medical conditions, and identify other pharmacological use.

The medical history

The medical history should account for why the patient is seeking health care at this time, in addition to information about the course of HIV infection, substance abuse, and other illnesses. A major goal of the history is to stage the readiness of the patient for involvement in the clinical decision-making process,¹⁰ and identify risk factors for non-adherence (Table 6). In an urban hospital, after a positive HIV serologic diagnosis, 39% of HIV patients delayed seeking primary care for more than one year, 32% for more than two years, and 18% for more than five years.¹¹ Frequently, patients' informational needs, life stresses, social isolation, and emotional distress often underlie non-biomedical reasons for medical consultation.¹² Some important features of history-taking are highlighted below.

Immunization history

A pertinent immunization history in HIV patients should inform the clinician of the degree to which the patient has completed the childhood and adolescent immunization schedule, the need for preventive vaccination or exposure prophylaxis, and the need for travel immunizations. In general, the antibody response to vaccination is inversely proportional to the degree of HIV-related immuno-suppression^{13, 14} Immunizations of particular interest are Hepatitis A & B, pneumococcal, influenza, tetanus, measles and varicella vaccines (Table 4). Measles vaccines are contraindicated in severely immunocompromised adults, as implied by

a CD4 count of less than 200 cells/cc or history of AIDS indicator conditions. Finally, women should be asked about their rubella serology or vaccination history.

Testing for HIV

A thorough baseline evaluation of HIV disease begins with documenting a true-positive HIV test result. Craven et al described seven patients with factitious HIV infection who were followed in clinic for up to 29 months. Factitious HIV syndrome has been described also in a small series of women with a history of sexual, physical or emotional abuse. Since false-positive results can occur with HIV enzyme immunoassay (EIA) tests, only EIA tests confirmed by a positive Western blot assay are reported by laboratories as positive. Indeterminate Western blot assays may be clarified by HIV viral load testing, or the patient can re-test in 3-6 months. OraSure testing is an acceptable alternative to venipuncture.

Assessing the risk of other infections

The mode of acquisition of HIV infection can indicate behaviors that place the patient at high risk for other diseases. Many patients enrolled in routine HIV-specialty care may continue to practice behaviors with a high risk of HIV transmission.¹⁹ Inquiring about the extent and type of sexual activity and contraceptive practices will facilitate a discussion of non-coercive partner notification programs to assist disclosure of their serostatus to partners.²⁰ A detailed history of other sexually transmitted diseases is gaining greater importance, as epidemiological studies show ulcerative and non-ulcerative sexually transmitted diseases significantly increase the risk of HIV-1 acquisition and transmission.^{21, 22} For example, incidence of HIV infection was reduced by 42% after improved treatment of sexually transmitted diseases in Tanzania.²³ In fact, the primary risk for HIV transmission among some urban IDUs is

sexual practices.²⁴ Other chronic viral infections may be acquired also by heterosexual transmission: for example, simultaneous acquisition of HIV with hepatitis C or HSV has been reported.^{25, 26} Other risk factors for acquiring opportunistic infections (e.g., pets, travel, and occupational exposure) should be appraised. A history of child abuse, domestic violence, and sexual abuse or assault may be present, and appropriate counseling must be incorporated into the overall treatment plan.

Key information for assessing the risk of co-morbid infections

- Mode of acquisition of HIV
- Nadir CD4 count
- Peak viral load
- Rate of decline in CD4 count
- Extent of sexual activity
- Type of sexual activity
- Pets
- Travel details or plans
- Occupational exposures

Assessing patients' prior antiretroviral treatment

HIV-infected patients are often subject to polypharmacy. A careful record of past antiretroviral medications—and the reason for their discontinuation—is especially important in determining future therapeutic options. The use of herbal, alternative medicines, and complementary medications should be determined specifically, because patients commonly use nontraditional therapies.²⁷ HIV-infected persons have an increased prevalence of adverse reactions to a wide variety of medications.²⁸ A history of adverse drug reactions should be elicited to indi-

cate the potential for future potentially life-threatening allergic reactions (e.g., abacavir, nevirapine, sulfa drugs, penicillin). A self-reported measure of adherence (e.g., number of medication doses missed in the last 3 or 7 days) reliably identifies clinically important non-adherence,²⁹ as non-adherence to medications in the past is a risk factor for future non-adherence.

The Physical Exam

A complete and thorough physical exam is necessary for the initial evaluation and staging of HIV-infected substance users, with particular emphasis on areas guided by the history (see Table 3). Interventions that are recommended for the general population, such as measurement of blood pressure, height, and weight, should not be overlooked in the greying HIV population with longer survival. The physical exam is also an opportunity to check for conditions common in HIV infected substance abusers, such as tuberculosis and, in women, gynecological and menstrual irregularities.

Tuberculosis

One-third of all deaths in HIV-infected persons worldwide are due to tuberculosis, which is also prominent in other medically under-served populations— injection drug users, the homeless, prison inmates, the urban poor, and chronically ill or otherwise immunosuppressed persons. The worldwide prevalence of tuberculosis parallels that of AIDS;³⁰ TB may accelerate the course of HIV infection,³¹ and treatment of active tuberculosis can be complex in HIV-infected persons.³² Though other immunocompromising conditions raise the risk for the development of active tuberculosis in PPD-positive persons 3.6- to 16-fold, HIV and AIDS increase the risk as much as 113- and 170-fold, respectively.³³ Therefore, the risk for tuberculosis should be assessed in all HIV-infected persons, and results of prior tuberculin skin testing

(TST), exposures, and treatment for tuberculosis have to be recorded. The clinical utility of a chest radiograph for detecting disease in an asymptomatic person with a negative PPD and no recent exposure remains unproven.

Considerations in women

HIV-infected women have menstrual irregularities and amenorrhea more commonly than HIV-negative women, without any clear correlation to CD4 count.^{34, 35} Some,³⁶ but not all,³⁷ studies suggest vulvovaginal candidiasis is more common and difficult to treat in HIV-infected women. Aphthous ulcers may present as genital ulcer disease, and HIV-infected women have more variable presentation of pelvic inflammatory disease than HIV-negative women.³⁸⁻³⁹ An obstetric history, including the patient's future plans for child-bearing, contraceptive options, and a record of the last PAP smear results should be reviewed. Pregnancy itself does not accelerate the progression to AIDS,^{40,41} though it may incur a higher rate of complications.⁴²

The Laboratory Evaluation

The laboratory evaluation will screen for common conditions in substance users with HIV, such as hematologic and biochemical disorders, electrolyte disorders, hepatitis, syphilis, toxoplasmosis, mycobacterial disease, human Papanicolaou virus, gonorrhea, and chlamydia. The CD4 count and viral load are particularly relevant for prognostication and prophylaxis of opportunistic infections.^{43, 44}

Hematologic and biochemical disorders

HIV-infected persons frequently have asymptomatic hematologic and biochemical abnormalities.⁴⁵ Anemia occurs in 17% of asymptomatic HIV patients, granulocytopenia in 8%, and thrombocytopenia in 13%.⁴⁶ Anemia is found in 66%-85% of patients with advanced disease.

Table 3. Diagnoses To Consider During The Physical Exam Of The HIV-Infected Substance User

Area being examined	Possible conditions or diagnoses
Skin	<ul style="list-style-type: none"> ■ Eosinophilic folliculitis ■ Herpes ■ Molluscum contagiosum ■ Photosensitivity ■ Psoriasis & Reiter's syndrome ■ Seborrheic dermatitis ■ Shingles ■ Staphylococcal folliculitis
Head and neck	<ul style="list-style-type: none"> ■ Adenopathy ■ Cotton-wool spots ■ Cheilitis ■ Oral hairy leukoplakia ■ Parotid enlargement ■ Periodontitis, stomatitis ■ Salivary gland disease ■ Sinusitis ■ Thrush ■ Ulcers
Cardiovascular	<ul style="list-style-type: none"> ■ Cardiomyopathy ■ Peri/endo-carditis ■ Pulmonary hypertension ■ Valvular insufficiency
Pulmonary	<ul style="list-style-type: none"> ■ Bronchitis ■ Pneumonia ■ Pleural effusion

Area being examined	Possible conditions or diagnoses
Gastrointestinal	<ul style="list-style-type: none"> ■ Ano-rectal lesions ■ Cholecystitis ■ Hepatitis ■ Pancreatitis ■ Prostatic hypertrophy ■ Splenomegaly
Genito-urinary	<ul style="list-style-type: none"> ■ Adnexal tenderness ■ Condyloma ■ Discharges ■ Rashes ■ Ulcers ■ Warts
Neuro-muscular	<ul style="list-style-type: none"> ■ Dementia ■ Encephalopathy ■ Inflammatory polyneuropathy ■ Meningitis ■ Myelopathy ■ Myopathy ■ Pain ■ Polyneuritis multiplex ■ Seizure ■ Sensory polyneuropathy
Psychiatric	<ul style="list-style-type: none"> ■ Adjustment disorder ■ Anxiety ■ Delirium ■ Depression ■ Mania ■ Panic disorder ■ Psychosis

Treatment of anemia with erythropoietin is associated with:

1. Increase hemoglobin, irrespective of CD4 count or viral load;
2. Lengthen survival in all CD4 strata;
3. Increase energy & activity level;
4. Improve quality of life; and
5. Improve tolerance to AZT or ribavirin in the case of drug-induced anemia.

Electrolyte disorders

Euvolemic or hypovolemic hyponatremia is the most common electrolyte disorder. Hyperkalemia, hypomagnesemia, hypocalcemia, hypoalbuminemia, hypergammaglobulinemia, and hypouricemia also occur frequently; however, hypercalcemia is rare and implicates a granulomatous disease, infection with cytomegalovirus, or HTLV-1.⁴⁸ Renal insufficiency is a common complication in patients with a history of intravenous drug use, and hyperglycemia is common in minority populations. Vitamin B12 level may be checked, if indicated, as its replenishment can lead to improvement in cognitive, neurologic, and hematologic abnormalities.^{49, 50} A fasting lipid profile, in conjunction with a cardiovascular risk assessment, is necessary before initiating antiretroviral therapy. Patients with pre-existing anemia, on oxidant drugs, and from high-risk regions should be tested for G6PD deficiency.⁵¹ Though inheritance of G6PD follows an X-linked pattern, inheritance in women is co-dominant and allows heterozygotes to experience hemolytic disease because of genetic mosaicism and lyonization.

Hepatitis

As many as 75% of patients have mild-to-moderate and 20% have severe abnormalities in hepatic enzymes (AST, ALT, alkaline phosphatase) and function (albumin, cholesterol, prothrombin time). In the

general population, acute hepatitis in the United States is caused by hepatitis A virus in 47% of cases, hepatitis B virus in 34% of cases, and hepatitis C virus in 17%. Chronic hepatitis is mainly caused by hepatitis B and C viruses. About 40% of HIV patients are co-infected with hepatitis C and about 90% of AIDS patients have markers of past or ongoing hepatitis B infection.⁵² The prevalence of hepatitis C in the substance use population approaches 75%.⁵³ Whereas immunocompetent patients with chronic hepatitis B who acquire HIV infection had an uncomplicated course, one study revealed an increased risk of fulminant hepatitis and death in patients with chronic hepatitis C who contracted hepatitis A. Baseline testing for antibody to hepatitis C, anti-HIV antibody, hepatitis B surface antigen (HBsAg), and hepatitis B core antibody (HBcAb) are sufficient. Subsequent testing depends on the initial results, and is outlined in an excellent review and algorithm.⁵⁵

Syphilis

Syphilis should be screened for annually with the VDRL or RPR, as these tests have good predictive values in HIV-infected patients, though reactive treponemal tests may become negative with advancing HIV disease.⁵⁶ Screening for rubella, varicella, and measles antibody is necessary in the absence of clear history of these diseases, especially in women desiring pregnancy. Antibody for CMV is found in about 50% of Americans and more than 90% of AIDS patients, homosexual men and intravenous drug users.⁵⁷ Hence screening for CMV antibody has limited clinical utility.⁵⁸ Evidence is accumulating to recommend screening of asymptomatic HIV-infected men for chlamydia, as the ligase chain reaction urine test has a high sensitivity and specificity, and a good predictive value in populations with high prevalence of *C. trachomatis* infection.^{59, 60}

Toxoplasmosis

The hallmark of HIV progression is the decline in CD4 count and eventual increase in viral load (Figure 2), both of which should be measured and verified before beginning antiretroviral medications. About 30% of AIDS patients who are seropositive for *Toxoplasma gondii* ultimately develop cerebral toxoplasmosis, which is almost always a result of reactivation of latent disease.⁶¹ Persons who are seropositive and have a CD4 count less than 100 cells/cc should receive preventive therapy, and seronegative individuals require counseling on primary prophylaxis measures and subsequent annual screening.

Testing for Mycobacterial and fungal diseases

Though disseminated mycobacterial disease remains a relatively frequent complication in advanced AIDS patients, blood cultures for *Mycobacteria* are of low yield in asymptomatic persons.⁶² Routine testing for cryptococcal antigen and skin testing for histoplasma or coccidioidin antigens are not recommended. Annual tuberculin skin testing is indicated for the reasons discussed above, though anergy panels are no longer recommended.⁶³

Papanicolaou test, gonorrhea and chlamydia

Papanicolaou test and cervical cultures for gonorrhea and chlamydia (or urine sent for non-culture tests for chlamydia), are performed biannually during the first year, and annually thereafter if no pathology is found. A history of previous atypia or dysplasia necessitates biannual screening, and a PAP smear should be repeated within three to six months after treatment of an inflammatory condition. Women with atypia or high-grade abnormalities need colposcopy, which is also recommended for lesions in non-cervical sites (e.g., vulva, vagina). Based on a four-fold increase in anal atypia or low grade dysplasia, anal PAP smears

may be considered in HIV-positive women with the following risk factors: CD4 less than 200 cells/cc, and history of cervical, vaginal or vulvar HPV or dysplasia, prostitution, or smoking. The role of routine anal PAP smears in screening men who have sex with men is unclear.

Table 4. Immunizations Indicated for the HIV-Infected Person

Vaccine	Primary Immunization Schedule	Indication & Comments
Pneumococcal	Pneumovax, 0.5 ml IM or SC	† All patients initially, if not previously vaccinated. Repeat vaccination when CD4 increases to over 200/cc, if initial vaccine was given with CD4<200/cc. Some recommend re-vaccination at 5 years.
Tetanus-diphtheria (Td) vaccine	Td 0.5 ml IM	† All patients. Booster every 10 years.
H. influenzae, type B	0.5 ml IM	† Safe, though some debate its utility in adults
Influenza virus	0.5 ml IM	† Repeat every fall
Hepatitis B	Recombivax HB 10Fg/ml or Engerix-B 20Fg/ml: 1 ml IM x3 doses: 2nd dose 1-2 months after first, 3rd dose 4-6 months after first.	† All patients who are anti-HBc-negative. † Can change manufacturers mid-series. † Can repeat series if HBsAb remains negative. † Adjust dose for immunosuppressed host.

Vaccine	Primary Immunization Schedule	Indication & Comments
Hepatitis A	Havrix or Vaqta; 1 ml IM (deltoid) x2 doses, 6 months apart	† All IDUs; † HIV patients with chronic HCV. † Can use immune globulin simultaneously if risk of exposure high: 0.2 ml/kg up to 2 ml for <3 months of travel, or 0.6 ml/kg up to 5 ml for >3 months of travel. † Can be given with Hep B vaccine.
Immunizations contraindicated for HIV-infected patients		
Vaccine	Primary Immunization Schedule	Indication & Comments
Varicella	Contraindicated in HIV patients; safe in their family members.	Can use VZIG for exposure of susceptible adults: 15-25 U/kg, minimum of 125 Units, IM
Measles	Contraindicated in severely immunocompromised patients	Can use IG within 6 days of exposure: 0.5 ml/kg up to 15 ml, IM

Table 5. Prophylaxis for Opportunistic Infections

Pathogen	Indication	Treatment Regimens
Pneumocystis carinii	<ul style="list-style-type: none"> ■ CD4<200/cc, ■ Prior PCP, ■ Thrush or ■ FUO x 2 weeks 	<ul style="list-style-type: none"> ■ Trimethoprim-sulfamethoxazole (TMP-SMX) 1 DS/day or 1 SS/day or 1 DS TIW; ■ Dapsone 100mg QD.
Mycobacterium tuberculosis	<ul style="list-style-type: none"> ■ TST reaction ≥5mm, ■ Exposure to active TB case, ■ History of inadequate treatment of TB exposure or ■ Reactive TST 	<ul style="list-style-type: none"> ■ Isoniazid 300mg QD + pyridoxine 50mg QD x ≥270 doses or 9 months; Isoniazid 900mg + pyridoxine 100mg BIW on DOT, x ≥76 doses or 9 months; ■ rifampin 600 mg QD + pyrazinamide 20 mg/kg QD, x ≥60 doses or 2 months.
Toxoplasma gondii	<ul style="list-style-type: none"> ■ CD4<100/cc and IgG antibody to Toxoplasma 	<ul style="list-style-type: none"> ■ TMP-SMX 1 DS QD or 1 SS QD; ■ dapsone 50 mg QD + pyrimethamine 50 mg/wk + leucovorin 25 mg/wk
Mycobacterium avium complex	<ul style="list-style-type: none"> ■ CD4<50/cc 	<ul style="list-style-type: none"> ■ Azithromycin 1200mg QW, or clarithromycin 500 mg BID

Engaging the Patient in Long-term Follow-up

Identification and management of these basic medical needs cultivates the clinician-patient relationship which, in turn, facilitates the development of a habit for routine medical monitoring—itself a cornerstone of the infrastructure for attaining the high levels of adherence necessary

for successful antiretroviral therapy. Comprehensive evaluation yields unique treatment options for each patient, which are most feasible when they are prioritized in collaboration with the needs and expectations of each individual, and addressed in a timely fashion so as to not overwhelm the patient. Providing interventions appropriate for the patient's stage of readiness is most helpful in implementing care plans (Figure 1). The importance of health education, nutritional counseling, and general health promotion measures (e.g., smoking cessation, seat-belt use, exercise) need not be overlooked. Indeed, patients who receive antiretroviral therapy as part of a comprehensive intervention program survive about 30% longer than those who do not have regular case management,⁶⁴ irrespective of CD4 counts. Most patients will require some preventive care measures (Table 4); some may need prophylaxis for opportunistic infections (Table 5). The treatment of anemia, wasting, and nutritional deficiencies may improve the immediate quality of life sufficiently to prepare for the greater demands of antiretroviral therapy. Pre-conception counseling about contraceptive methods, and initiation or modification of HAART prior to conception are indicated in women of child-bearing age.

Initiating Antiretroviral Therapy

A detailed discussion of the medical management of HIV-infected persons has been put forth in practice guidelines,⁶⁵ and is only briefly reviewed here. The decision to initiate antiretroviral therapy occurs under unique circumstances with each patient. Current guidelines suggest that antiretroviral therapy be recommended to individuals with:

1. Symptomatic HIV infection,
2. Asymptomatic AIDS, and
3. CD4<350/cc or, possibly, HIV viral load (RT-PCR) greater than 55,000 copies/ml (30,000 copies/ml, bDNA).

When should antiretroviral therapy be initiated?

Though the optimal time to initiate antiretroviral therapy in the course of life-long HIV infection is not precisely known, it is generally agreed that the recommendation for therapy should be based on the risk for disease-free survival—as determined by the CD4 count and plasma viral load.⁶⁶ The likelihood of non-adherence and treatment failure is directly proportional to the degree of psychosocial dysfunction, and some side effects of antiretroviral medications are difficult to distinguish from withdrawal symptoms. Therefore, opioid-dependent patients should be stabilized on a blocking dose of methadone before starting antiretrovirals. Finally, the goal of antiretroviral therapy is unique for each patient, and can include any combination of viral load suppression (maximal or sub-maximal), restoration or preservation of immunologic function, improvement of quality of life, and reduction of morbidity and mortality. Clear delineation of the goal for each patient is essential for initial and subsequent treatment decisions.

Benefits and risks of antiretroviral therapy

Currently, antiretroviral regimens require the complex combination of several drugs (Table 8), are associated with predictable side effects and drug interactions, and pose a substantial challenge for adherence. The strength of a recommendation for therapy involves balancing the prognosis predicted by the baseline CD4 count and viral load, risks and benefits of therapy, the readiness of the patient for long-term adherence, and the patient's ability to tolerate potential adverse drug reactions attributable to specific drugs. Though active injection drug abuse, cocaine abuse and alcoholism have been noted to increase the risk of non-adherence to antiretroviral therapy, the degree of sporadic illicit drug use that can be tolerated without significantly eroding adherence to a complex medication regimen has not been determined. Given the chronic relapsing nature of addiction and the high prevalence of contin-

ued sporadic use of illicit substances, the attainment of a totally drug free status is not a practical general pre-condition for initiating antiretroviral therapy. However, attaining a stable and effective methadone dose prior to initiating HAART facilitates the short-term success of antiretroviral therapy.

Assessing adherence risk factors

Educating the patient about the impact of drug abuse on the effectiveness of antiretroviral therapy, consequences of resistance, and drug interactions is requisite before initiating HAART in this population. The risk for evolution of viral resistance is actually greatest in patients who take 60-90% of their medications. Accordingly, systematic assessment of and interventions to optimize adherence are both necessary *before and after* initiating HAART (Table 6). Though temporary delay of HAART is often necessary for some patients while management of adherence risk factors and substance abuse are optimized, indicated preventive medical care should begin immediately.

Determining the HAART regimen

Despite the recent advent of resistance testing, a thorough history of past antiretroviral therapy is crucial in determining remaining choices for regimens retaining substantial anti-HIV activity. The majority of HIV drug resistance appears to be the result of selective pressure from antiretroviral medications taken, not from initial infection with a resistant strain, though the latter is becoming increasingly important. Injection drug use itself is associated with increased genetic diversity of the envelope (*env*) region of HIV genome.⁶⁷ If the positive effect of drug injection frequency on the genetic evolution of *env* extends to the HIV-1 *pol* gene, the risk of emergence of resistance to antiretroviral drugs may be enhanced by increased drug injection frequency, especially under the selection pressure of antiretroviral therapy. Hence,

Table 6. Adherence Risk Assessment and Interventions

Risk factors for non-adherence	Interventions promoting adherence
<ul style="list-style-type: none"> ■ Current substance abuse ■ Unstable housing ■ Untreated psychiatric illness ■ Poor coping skills or pessimism ■ History of Emergency Dept use ■ History of non-adherence to medical regimen ■ Infrequent clinical monitoring ■ Transportation difficulties to clinic (length of trip, means) ■ Low level of self-efficacy (i.e., Patient feels not ready for Rx) ■ Complexity of regimen, TID regimen or regimen changes patient's daily activities ■ Inability to read English 	<ul style="list-style-type: none"> ■ Stabilize substance use and psychiatric conditions ■ Stabilize housing issues ■ Have patient identify barriers to good adherence, and address them ■ Engage patient in tailoring medication to fit lifestyle and sleep-wake-feed cycle ■ Educate patient about medications, side effects, and consequences of non-adherence in culture-specific manner ■ Manage ADRs pre-emptively ■ Fill pill box for patient ■ Practice skill-building exercises (e.g., Jellybeans, vitamins, OI prophylaxis) ■ Simple pill-taking instructions ■ Teach patient what to do for late or missed doses ■ Discuss medications for holiday or vacation plans ■ Use reminders (activities, alarms, etc)

resistance testing before changing regimens has an additional significance in the substance user with chronic HIV infection, and resistance testing in the treatment-naïve patient is also indicated.

Once engaged in primary care, patients can assist in the final choice of regimens, if they understand (1) the relevance of recalling past therapies and pill-taking behavior to determine current options, and (2) key toxicities and dosing frequencies that differentiate regimens. The patient's answer to four brief questions (Table 7) usually suggests the most feasible antiretroviral options, which must then be cross-referenced with the history of past therapies and results of antiretroviral resistance testing—to ultimately develop at least 2 viable treatment regimens from which the patient can choose.

Table 7. Steps for Determining A HAART Regimen With a Patient

1. Stabilize co-morbidities, and minimize risks for non-adherence.
2. Educate the patient about the interplay between HIV disease course, resistance, adherence requirements.
3. Ask 4 key questions to help determine the patient's HAART regimen:
 - a. Does the patient understand the demands of adherence and consequences of non-adherence?
 - b. Does the patient understand the importance of frequent follow-up?
 - c. Can the patient identify which toxicities can or cannot be tolerated?
 - d. Does the patient require a once daily, or adhere to a twice daily, or partially once-daily regimen?
4. Review the patient's history of past therapies, and the results of antiretroviral resistance testing.
5. Develop at least 2 feasible treatment regimens for the patient to choose from.
6. Arrange prompt schedule of follow-up.

Table 8. Abbreviations For Antiretroviral Medications

Abacavir	ABC	Lopinavir	LPV
Amprenavir	AMP	Nevirapine	NVP
Combivir	CBV	Ritonavir	RTV
Delavirdine	DLV	Saquinavir- Soft Gel Capsule	FTV
Didanosine	DDI	Stavudine	D4T
Didanosine- Enteric Coated	DDI-EC	Tenofovir	TDF
Efavirenz	EFV	Trizivir	TZV
Lamivudine	3TC	Zidovudine	AZT
Indinavir	IDV		

Table 9. Antiretroviral Treatment Options

2 NRTIs + PI or NNRTI:	d4T/ABC + DDI (EC) AZT/ABC + DDI (EC) d4T+ 3TC AZT + 3TC	NFV FTV NVP IDV	or	RTV + FTV RTV + IDV RTV + LPV	or	EFV NVP DLV
PI- & NNRTI- Sparing:	3 NRTIs (AZT+3TC+ABC, d4T+DDI+3TC, AZT+DDI+3TC)					
NOT Recommended:	Monotherapy; 2 NRTIs alone; AZT+d4T, or ddC+ (DDI, 3TC or d4T) in any men; SQV-hard gel; FTV+EFV (but OK with RTV)					

Table 10. Simplified Dosing of Antiretroviral Medications

NRTIs	PIs	NNRTIs
<ul style="list-style-type: none"> ■ 3TC <ul style="list-style-type: none"> • 300 QD ■ DDI-EC or DDI-buffered tabs ■ 400 QD <ul style="list-style-type: none"> • ABC ■ 600 QD ■ Tenofovir <ul style="list-style-type: none"> • 300 QD ■ Combivir <ul style="list-style-type: none"> • 1 tab BID ■ Trizivir <ul style="list-style-type: none"> • 1 tab BID ■ Zerit XR (under review) <ul style="list-style-type: none"> • (under review) • 1 tab BID 	<ul style="list-style-type: none"> ■ NFV 1250 mg BID ■ RTV + FTV <ul style="list-style-type: none"> • 100 +1000 mg BID • 100+1600 mg QD ■ RTV + IDV <ul style="list-style-type: none"> • 200 + 800 mg BID • 200 +1200 mg QD ■ RTV + AMP <ul style="list-style-type: none"> • 200+600 mg BID • 200 +1200 mg QD ■ RTV + LPV <ul style="list-style-type: none"> • (under study) • 6 caps QD 	<ul style="list-style-type: none"> ■ NVP <ul style="list-style-type: none"> • 400 mg QD ■ EFV <ul style="list-style-type: none"> • 600 mg QD ■ DLV <ul style="list-style-type: none"> • 600 mg BIDv <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Some once-daily regimens:</p> <ul style="list-style-type: none"> ■ DDI + 3TC + EFV ■ DDI + 3TC + NVP ■ DDI + 3TC + RTV + FTV ■ RTV + FTV + EFV ■ RTV + AMP + EFV </div>

This complex process is complicated further by the dilemma that some of the resultant treatment options will not have equivalent levels of scientific evidence supporting their effectiveness. However, since patients' self-assessment of future non-adherence is highly predictive of actual adherence, it is sometimes necessary to consider a scientifically lesser validated combination therapy in order to reduce the pill burden and dosing frequency, and optimize adherence and tolerance of side effects (Table 10). Alternatively, in order to utilize other HAART regimens—which may be better studied but not deemed as feasible by the patient—barriers to high optimal adherence must be overcome.

Choosing HAART for Post-Exposure Prophylaxis (PEP)

Relative to unprotected intercourse, needle sharing carries a much greater estimated probability of HIV transmission, which may occur via transcutaneous inoculation of a relatively small amount of blood. As with post-coital contraception, patients and providers are ambivalent about the ethics of prescribing PEP for injection drug use relapse or unprotected sex.^{68, 69} Nonetheless, PEP after occupational exposure to HIV has been offered since 1988 and, over the last 10 years, evidence supporting the efficacy of PEP has accumulated from animal models, studies of the prevention of maternal-fetal transmission, and a world-wide retrospective case-control study.^{70, 71} The feasibility of PEP against HIV after sexual or IDU exposure has been recently demonstrated also.⁷² Recent recommendations suggest candidates for non-occupational PEP be stratified into low- and high-risk groups.⁷³

- For low risk or continued exposures, referral to a risk reduction program is appropriate.
- Recommend PEP for high risk exposures, as defined by a history of:
 - unprotected anal or vaginal, receptive or insertive intercourse, or unprotected receptive fellatio with ejaculation;
 - HIV-positive or high risk source;
 - single, isolated exposure, presenting within 72 hours; or readiness for harm reduction.
- Evaluate for other STDs and offer HIV testing at 6, 12, and 24 weeks post-exposure.
- Watch for Acute Retroviral Syndrome (fever, adenopathy, pharyngitis, rash, myalgias, arthralgias, headache).
- Evaluate source patient also.

Treatment regimens containing two nucleosides (e.g., Combivir, stavudine or zidovudine + lamivudine or didanosine) and a protease inhibitor (e.g, nelfinavir, indinavir) are initiated as soon as possible but within 72 hours of exposure, and continued for 28 days. Nelfinavir may be better tolerated than indinavir in post-exposure prophylaxis. A relatively high frequency of drug-induced hepatitis and rash make nevirapine an unattractive choice for PEP,⁷⁴ despite its established effectiveness in preventing perinatal transmission, low pill burden, once daily dosing, and action at a pre-integration site in the HIV life cycle. Though clinical management is more complicated, pregnancy does not preclude PEP.

Choosing HAART for The Pregnant Substance Abuse Patient

The pregnant HIV patient on methadone requires swift evaluation and management to attain total abstinence from illicit drugs, alcohol, and tobacco, as well as the lowest possible HIV viral load.⁷⁵ Antiretroviral therapy is recommended for all pregnant HIV patients irrespective of CD4 count or viral load.⁷⁶ The goal of antiretroviral therapy remains to minimize the risk of perinatal transmission by optimally treating the expectant mother.

Resistance testing is indicated to help determine the most effective regimen for the pregnant patient. Zidovudine should be included in the regimen in the absence of prohibitive side-effects or concurrent stavudine. For the three drugs studied (zidovudine, lamivudine, and nevirapine), the pharmacokinetic profiles in pregnant women are similar to those in non-pregnant women. Antiretroviral agents are classified as FDA pregnancy category B (no fetal risk in animal studies) or C (fetal risk in animals possible or demonstrated): didanosine, ritonavir, saquinavir, nelfinavir are in category B; the remaining antiretroviral drugs are in category C. Efavirenz should be avoided in pregnancy, especially during the first trimester, due to teratogenic concerns extrapolated from animal studies reporting anencephaly, anophthalmia and

microphthalmia in newborn cynomolgus monkeys. Similar concern for teratogenicity of abacavir (fetal anasarca and skeletal malformations in rats) and amprenavir (abortion and incomplete ossification in rabbits) leads many to avoid these drugs during the first trimester. The oral solution of amprenavir should not be used because of its large amount of propylene glycol, which cannot be metabolized during pregnancy; however, the capsule form may be used. During pregnancy, the combination of stavudine and didanosine should be avoided, or used with caution, because of reports of three deaths in pregnant women after developing lactic acidosis. Zidovudine and stavudine should not be co-administered; however, regardless of the maternal antiretroviral regimen, intrapartum and newborn components of AZT prophylaxis should be administered. For women already on therapy, most experts recommend continuation of a fully suppressive regimen during the first trimester, or simultaneous discontinuation of all drugs with their subsequent simultaneous re-institution after the first trimester.

As pregnancy progresses, the pregnant woman may need an increase in methadone dose due to increased fluid space and altered drug metabolism. Methadone dose adjustment necessitated by pregnancy often requires further titration in the presence of nevirapine or efavirenz. Finally, the pregnant substance abuse patient is at risk for a relapse in drug use and post-partum depression, both of which may cause non-adherence.

Risks and perceptions of drug-drug interactions

Actual and perceived drug-drug interactions between methadone and antiretroviral drugs (See Table 12) have an impact on patients' willingness to take some medications. For instance, two conveniently dosed agents with a low pill burden, nevirapine and efavirenz, can both increase the metabolism of methadone and cause opiate withdrawal

Table 11. Interactions Between Antiretroviral Drugs and Methadone

Antiretroviral Medication	PK Effect on HIV Drug	PK Effect on Methadone	Clinical Consequence
AZT	▲ AUC by 40%	No significant effect	May cause higher frequency of anemia
DDI	▼ AUC by 50%	No significant effect	Dose adjustment not needed
DDC	Unknown	Unknown	Probably no significant effect
D4T	▼ AUC by 20%	No significant effect	Dose adjustment not needed
3TC	No significant effect	No significant effect	No significant effect
ABC	▼ Cmax by 35%, Tmax delayed by 1 hour	▲ CL by 20%	No significant effect
Ritonavir	No significant effect	▼ AUC & Cmax by 35%	No significant effect at doses of 100-200mg QD
Indinavir	Unknown	Unknown	Probably no significant effect
Saquinavir-sgc	No significant effect	No significant effect	No significant effect
Nelfinavir	No significant effect	▼ AUC by 45%	No significant effect
Amprenavir	No significant effect	▼ AUC by 13%	No significant effect
Lopinavir + ritonavir	No significant effect	▼ AUC by 53%	Probably no significant effect
Ritonavir + Saquinavir	No significant effect at RTV doses of 100mg QD	▼ AUC by 8%	No significant effect
Delavirdine	No significant effect		No significant effect
Nevirapine	No significant effect	▼ AUC by 45%	Both can cause opiate withdrawal usually 7-10 days of co-administration, which can be managed by increasing methadone dose or split dose.
Efavirenz	No significant effect	▼ AUC by 50%	

Table 12. Potential Interactions Between Antiretrovirals And Illicit Drugs Or Methadone

Drug	Postulated effect
<ul style="list-style-type: none"> ■ Methadone 	<ul style="list-style-type: none"> ■ CYP3A4 inhibitors (cimetidine, erythromycin, fluvoxamine, ketoconazole, nefazodone) increase plasma methadone level, possibly requiring methadone dose reduction. ■ CYP3A4 and 2D6 inducers (carbamazepine, efavirenz, nevirapine, phenytoin, phenobarbital, rifampin) decrease plasma methadone levels, possibly requiring methadone dose increase.
Illicit drugs	
<ul style="list-style-type: none"> ■ Amphetamine ■ dextroamphetamine ■ Ecstasy ■ Methamphetamine ■ Paramethoxyamphetamines 	<ul style="list-style-type: none"> ■ CYP2D6 inhibitors (ritonavir, SSRIs, haloperidol) could intensify the effects of amphetamine-related compounds resulting in severe, potentially fatal reactions.
<ul style="list-style-type: none"> ■ Benzodiazapines <ul style="list-style-type: none"> • CYP3A4-metabolized (alprazolam, clorazepate, diazepam, midazolam, tirazolam) • Non-CYP3A metabolized (lorazepam, oxazepam, temazepam) 	<ul style="list-style-type: none"> ■ Except possibly midazolam, do not combine with ritonavir and indinavir, which may significantly inhibit their metabolism. ■ By inducing glucuronosyltransferases, ritonavir could increase the metabolism of these agents, possibly precipitating a withdrawal reaction. ■ May need higher dose of these agents in patients on ritonavir.

Illicit drugs	Postulated effect
<ul style="list-style-type: none"> ■ Cocaine 	<ul style="list-style-type: none"> ■ CYP3A3/4 inducers may increase the norcocaine metabolite, which is hepatotoxic.
<ul style="list-style-type: none"> ■ Heroin, codeine, morphine, hydromorphone 	<ul style="list-style-type: none"> ■ By inducing glucuronosyltransferases, ritonavir could increase the metabolism of these agents, possibly precipitating a withdrawal reaction or loss of therapeutic effect.
<ul style="list-style-type: none"> ■ Marijuana ■ Hashish ■ Hash oil (all contain tetrahydrocannabinol, THC) 	<ul style="list-style-type: none"> ■ CYP3A3/4 or 2C9 inhibitors (ritonavir, indinavir) may potentiate THC; ■ CYP3A3/4 inducers (nevirapine) may increase the effect of THC, though shorten its duration.

symptoms after about one week of co-administration in 25-50% of patients. However, proper communication of this anticipated interaction between the substance abuse and antiretroviral treatment providers allows prompt increase of the methadone dose to control any subjective symptoms of opiate withdrawal (e.g., craving, abdominal pain, yawning, early morning insomnia, and nausea).

On the other hand, despite a significant reduction in plasma level of didanosine by methadone, the effectiveness of didanosine when used as a component of HAART does not appear to be compromised in substance users on methadone.^{77,78} The pharmacokinetic interaction that is observed with one dosing schedule of a drug may be absent for another dosing schedule: for instance, the pharmacokinetic decrease in

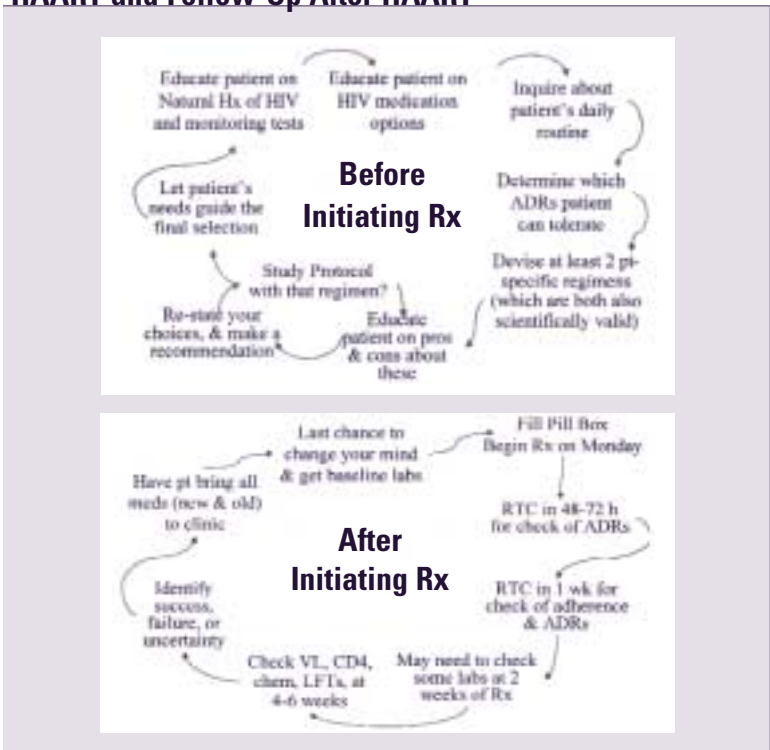
methadone observed at doses of 400mg BID each of ritonavir and saquinavir-sgc is absent at the once-daily dosing schedule of 100mg ritonavir and 1600mg saquinavir-sgc.⁷⁹ Recreational drugs may compound or precipitate adverse drug reactions by antiretrovirals.⁸⁰ For example, concurrent alcohol abuse increases the risk for pancreatitis due to didanosine. Ritonavir has been known to increase the activity of ecstasy (methylenedioxymetamphetamine, MDMA) and (-hydroxybutyrate (GHB), leading to near fatality.⁸¹ Laboratory studies of the effects of illicit drugs and of methadone on HIV entry into cells have yielded inconsistent results. It is important to note that carefully conducted natural history studies have demonstrated no association between drug use or methadone use and progression of HIV disease.

Follow-up Monitoring

The process for collaboratively choosing a regimen that maximizes adherence proceeds at a unique pace for each patient. Except in the case of post-exposure prophylaxis, antiretroviral therapy is rarely an emergency and can occur after at least 2-3 encounters. In general, HAART is started at the beginning of the week so as to allow swift follow-up should it be necessary in the next 48 hours (see Figure 2). Patients are taught to fill pillboxes, and very brief follow-up is required twice weekly to evaluate adherence and adverse drug reactions. Though the follow-up schedule will be determined uniquely for each individual, the frequency of visits usually can be tapered by the third or fourth week, by which time laboratory evaluation (chemistries, liver enzymes, complete blood count, T-cells and viral load) will reveal if the regimen is approaching the goals or causing toxicity. In general, patients not on antiretrovirals and those with a viral load lower than 50 copies/ml require immunologic and virologic monitoring every 3 months, whereas other patients require more frequent monitoring (e.g., within 2-6 weeks after a change in the regimen). Frequent moni-

toring of HIV viral load reveals viral rebound earlier, allows earlier identification of treatment failure, and may permit the avoidance of developing high-level resistance to antiretrovirals.⁸² Each follow-up encounter is an opportunity to reiterate information about patients' clinical status and adherence needs. Patients should be supplied with printed information guides on HIV disease and medications, which are readily available from many websites on the internet (Table 13).

Figure 2. Clinical Cycle for Initiating HAART and Follow-Up After HAART



Conclusions

The level of comfort a clinician has in caring for HIV-infected and substance abuse patients correlates with the amount of previous contact he or she has had with these patient groups. Attitudinal barriers may be compounded by structural barriers to care inherent in diverse paradigms of health care in substance abuse and primary care programs. These paradigms can be bridged by applying common principles (e.g., stages of change model), adopting best practices, and cross-training staff and patients using up-to-date information.

Table 13: Useful Internet sites for HIV-Related Information

<http://www.aactg.com>
<http://www.aahivm.org>
<http://www.actis.org>
<http://www.aegis.com>
<http://www.ahcpr.org>
<http://www.aidsmap.com>
<http://www.aidsnyc.org>
<http://www.amfar.org>
<http://www.cdc.org>
<http://www.eudra.org>
<http://www.fda.gov>
<http://www.gmhc.org>
<http://www.herbs.org>

<http://www.hivatis.org>
<http://www.hivdent.org>
<http://www.hivguidelines.org>
<http://www.nsf.gov>
<http://www.unaids.org>
<http://www.hivinsite.ucsf.edu>
<http://www.homeopathic.com>
<http://www.hopkins-aids.edu>
<http://www.medscape.com>
<http://www.retroconference.org>
<http://www.hivresistanceweb.com>
<http://www.tripharm.com>

Pharmaceutical Company Websites

<http://www.abbott.com>
<http://www.agouron.com>
<http://www.bms.com>
<http://www.chiron.com>
<http://www.dupontpharma.com>
<http://www.gilead.com>
<http://www.glaxowellcome.com>
<http://www.merck.com>
<http://www.procrit.com>
<http://www.rocheusa.com>
<http://www.sch-plough.com>

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CHAPTER 9: THE PUBLIC POLICY CONTEXT OF DRUG USE IN NEW YORK CITY

Rebecca Tiger, MS

THE NEW YORK ACADEMY OF MEDICINE

Ruth Finkelstein, ScD

THE NEW YORK ACADEMY OF MEDICINE

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Introduction

The chapters in this manual have focused on the medical aspects of substance abuse, with several presenting substance abuse as a manageable, chronic disease, not unlike asthma or diabetes. This perspective is informed by a vast body of research on the biomedical bases of addiction.

This chapter aims to highlight some of the policies that affect the lives of substance users accessing health care and to help providers understand the ways in which substance users are affected by the misunderstandings about addiction upon which several public policies are based. This chapter is not meant to serve as a comprehensive cataloging of the specifics of each policy, although references for this information have been included in the manual's resource guide. Rather, it has two goals:

- Introducing primary care providers to the policies that affect substance users and the challenges these policies pose on their patients' ability to seek health care, and
- Pointing out what the clinical care provider can do to mitigate these policies' negative effects on their substance-using patients.

While the solution to the difficulties these policies impose on substance users does not rest with the physician, it is important for the primary care provider to understand how these policies affect substance users and the difficulties that the overarching stigma of substance use plays in substance users' lives.

This chapter will cover the following topics:

- A background of policy problems,
- Public assistance,

- Substance abuse treatment,
- Harm reduction,
- The criminal justice system, and
- Issues specific to women.

Background

While research has helped to advance clinical understanding of addiction, it has not had the same effect on our public policies. In fact, many policies reflect profound *misunderstandings* about addiction and bear little relation to the scientific evidence on addiction and treatment. Some policy responses impose considerable hardships on substance users and function to punish them for their addiction.

Not all substance users, however, are affected by these policies. While substance use affects all economic classes, low-income people bear the brunt of the punitive public policies. This is because many of the policies that impose the greatest barriers on substance users are those that by their nature are utilized by the poor: income assistance, supplemental security insurance, and public housing. Poor substance users are additionally penalized because of their substance use, often being denied necessary services, such as publicly funded addiction treatment, because of their addiction. For this reason, they choose to keep their substance abuse hidden from providers, including physicians, for fear of the repercussions if their substance use is known.

Public Assistance

Substance users in New York City must negotiate a fragmented substance abuse treatment, health care, and public assistance system. One of the first challenges they face is in identifying the system's eligibility requirements. Because these requirements are difficult to under-

stand, many people are guided by beliefs that may lead them to incorrectly assume that they are ineligible. The sheer complexity of the system, combined with stories about its complexity, deters many people from accessing needed benefits, healthcare, and treatment.

Specific public assistance programs include

- Income support,
- Medicaid,
- Supplemental Security Income, and
- Housing.

Income Support

The recent changes brought about by “welfare reform” have profoundly affected substance users and their access to benefits. The 1996 Personal Responsibility and Work Opportunity Reconciliation Act ended the federal government’s responsibility to ensure income support for eligible low-income individuals. Aid to Families with Dependent Children (AFDC), an entitlement program through which all eligible people received benefits, was replaced by Temporary Assistance to Needy Families (TANF), which instituted a five-year lifetime limit on cash benefits and a mandatory work requirement for TANF recipients.

In 1997, New York State passed the Welfare Reform Act, which established Family Assistance as the basic form of income support for families with children under 18. The state also created a second form of assistance, Safety Net Assistance, for households not eligible for federal assistance.

The Welfare Reform Act created specific procedures for addressing substance abuse and specific sanctions for applicants unable or unwilling to follow these procedures.

The Family Assistance application process¹

1. When people apply for public assistance, they are screened for alcohol and/or substance abuse with a standardized screening instrument developed by New York State's Office of Alcohol and Substance Abuse (OASAS).
2. If this screening indicates a possible alcohol or drug problem, they are sent for a formal assessment with an OASAS-trained Certified Alcohol and Substance Abuse Counselor (CASAC). This formal assessment may include a drug test. Applicants are not screened for mental disability.
3. If the formal assessment indicates an alcohol or substance abuse problem, but the person is deemed able to work, the eligibility process continues.
4. If the CASAC determines that the person is unable to work because of his/her substance abuse, he/she is mandated into an OASAS-licensed treatment program. The CASAC worker determines the appropriate treatment modality and location. Physicians are not involved in making the treatment decisions. The person must sign a consent form to release his or her medical and treatment information. He or she is ineligible for public assistance if he/she refuses to sign this form. TANF applicants must report to the treatment location determined by the CASAC.

Eligibility requirements for income support programs

- If an individual fails to report to treatment, he or she must re-start the TANF application process.
- If an individual reports to treatment, his or her family will receive non-cash Safety Net Assistance and medical assistance.
- Individuals who do not participate in the screening/assessment or who do not participate in treatment are ineligible for Family

Assistance. Their household members may receive non-cash Safety Net Assistance and medical assistance.

- If a person does not complete the course of assigned treatment, he or she loses any form of public assistance for 45 days for the first violation, 120 days for the second, and 180 days for the third.

Treatment covered by Medicaid:

- ***Methadone maintenance***
- ***Detoxification***
- ***Outpatient treatment***

Medicaid

Medicaid covers the cost of certain kinds of substance abuse treatment, including methadone maintenance, detoxification, and outpatient treatment. However, treatment requirements and eligibility restrictions can make Medicaid coverage precarious at best.

Treatment requirements

People who are referred to treatment through Family Assistance can lose their Medicaid if they do not complete treatment.

If a person does not complete TANF-mandated substance abuse treatment, he or she will lose Medicaid benefits for

- 45 days for the first violation,
- 120 days for the second violation, and
- 180 days for the third violation.

The result of this sanctioning is that people who are unable to complete treatment lose both their access to other substance abuse treatment and any health care for other conditions.

Eligibility restrictions

The Medicaid eligibility restrictions for immigrants pose severe barriers to their ability to access health care and substance abuse treatment.

Several restrictions apply, including for immigrants legally in the United States. Immigrants who were lawful permanent residents prior to August 1996, refugees, asylum recipients, and immigrants who have had their deportation withheld are eligible for Medicaid. Lawful permanent residents who entered the U.S.² after August 1996 are ineligible for Medicaid for their first five years in the U.S. Undocumented immigrants are not eligible for Medicaid, but can access HIV uninsured care, prenatal benefits, postpartum care, and care for emergency conditions.

Supplemental Security Income

Supplemental Security Income (SSI) is the federal system of needs-tested benefits for the aged, blind, and disabled who do not qualify for the employment-based Social Security Disability Insurance (SSDI). SSI eligibility is based on financial need and, for the disabled, an impairment that would prevent someone from working for a minimum of 12 months and can be established by objective medical evidence.

On January 1, 1997, SSI eligibility ended for individuals whose drug and alcohol addiction was the material factor for the determination of their disability. As a result of this change, substance abusers were cut off from their main source of income support. Approximately 200,000 people nationally were affected by this change,³ 75% of whom would be eligible for SSI based upon another disability, but whose benefits, nonetheless, were not preserved. In New York State, OASAS estimates that 10,000 may have been affected by this change. However, many of these people had other disabilities that could serve as the material factor for a determination of disability, including HIV, mental health disorders, and other combinations of disabling conditions.

Substance-using patients can qualify for SSI if another disabling condition is indicated to document disability.

Patients with a disability can retain or qualify for SSI if their substance abuse is not indicated as their primary disability.

Physicians need to know that substance abuse is not a disabling condition to qualify for SSI. Their substance-using patients can qualify for SSI if another disabling condition is indicated to document disability. Patients with a disability can retain or qualify for SSI if their substance abuse is not indicated as their primary disability.

Housing

Current substance use and a history of use can serve to bar people from accessing housing. Substance users cannot access publicly funded housing if their substance use is known. If a person is charged with a crime either directly or indirectly related to substance use, the housing authority can remove the individual and his or her family from public housing. After serving a sentence for a drug-related crime, a person is ineligible for publicly funded housing for a period of time determined by the class of crime for which he/she was convicted.

Substance Abuse Treatment

The substance abuse treatment system in New York City is funded through a mix of federal, state, and city dollars. The New York State Department of Health, through Medicaid, and the Office of Alcoholism and Substance Abuse Services (OASAS), through a block grant from the federal Center for Substance Abuse Treatment (CSAT), fund the following range of treatment services in New York. In residential settings, residents' income support and food stamps routinely augment other funding.

Self Help

Alcoholics Anonymous (AA), Narcotics Anonymous (NA), and other twelve-step programs are premised on a self-help structure. These programs are free and run by volunteers. Because they stress abstinence, not harm reduction, they can pose problems for people who are still using substances and/or using them intermittently.

Table 1. Treatment services in New York

Crisis services	<ul style="list-style-type: none"> ■ Include medically managed detoxification, and outpatient and inpatient/residential, medically supervised withdrawal services.
Outpatient services	<ul style="list-style-type: none"> ■ Serve people with alcohol or substance abuse problems.
Inpatient services	<ul style="list-style-type: none"> ■ Include intensive evaluation, treatment and rehabilitation services which consists of medically-supervised, 24-hour a day, 7 days per week care.
Residential services	<ul style="list-style-type: none"> ■ Include 24-hour, structured, alcohol and drug free residential setting.
Methadone maintenance	<ul style="list-style-type: none"> ■ Include outpatient and residential methadone maintenance. ■ Key Extended Entry Program (KEEP) in New York City provides services to people incarcerated in jail, placing emphasis on assessment and discharge planning.
Therapeutic communities	<ul style="list-style-type: none"> ■ Highly structured inpatient residential programs ranging from 6 months to two years.
Self help	<ul style="list-style-type: none"> ■ Alcoholics Anonymous (AA), Narcotics Anonymous (NA) and other twelve-step programs. ■ Free and run by volunteers. ■ Because they stress abstinence, not harm reduction, they can pose problems for people who are still using substances and/or using them intermittently.

Barriers to Treatment

The limited availability of treatment programs constitutes a serious barrier to treatment. Because of the drug treatment system's limited capacity, substance users are compelled to fit themselves into programs that often do not accommodate their varied needs. Additionally, the fact that a certain type of treatment exists does not guarantee its availability for the person who needs it. Accurate numbers on waiting lists and treatment availability are hard to come by and, aggregated, do not reflect the lack of treatment available for certain populations.

Limited availability

Availability is limited by the specific needs of different populations, timeliness issues, admission requirements, and heavily regulated treatment programs.

Specific needs of different populations

As one advocate pointed out, "It depends on the population. Women with children have a harder time. So a bed may be available, but it might not be right for the person who needs it."

"Treatment should be available when someone is ready. There may be enough services, but they're not available when people need them."

—A primary care provider

Timeliness

A primary care provider pointed out that *when* treatment is available is as important as what kind of treatment is available. It is important to realize that much of the available capacity on any given day

is filled with people court-mandated to treatment, so an individual seeking treatment on his or her own is unlikely to find space in a program.

Admission requirements

Admission requirements can also serve as a deterrent, with programs requiring patients to meet several criteria, including type of substance used and length of use, prior to admission. In addition, there is very little effective treatment for cocaine dependence.

Heavily regulated treatment structures

Methadone is the most effective treatments for opiate addiction.⁴ It is also one of the most heavily regulated disease treatments and the only medication that must be prescribed exclusively in specified treatment centers.⁵ Only physicians who are affiliated with licensed addiction treatment centers can prescribe methadone. These centers must undergo a series of regulatory measures and pass Food and Drug Administration (FDA) inspection before they can serve as methadone treatment centers.

This complex regulatory process has severely limited the capacity of the methadone treatment system. The lack of capacity in the methadone treatment system is evidenced by the fact that only 20% of the approximately 980,000 heroin addicts in the U.S. are receiving any opiate replacement therapy. New York City has approximately 160,000 injection drug users,⁶ but only approximately 42,000 methadone treatment slots⁷. In addition, there has been no expansion in the availability of methadone treatment since the beginning of the AIDS epidemic, despite methadone's proven success at reducing injection drug use.

The heavily regulated structure of the methadone treatment system also imposes barriers on patients. Patients encounter strict attendance requirements, limited hours of clinic operation, and routine screenings for drug use.⁸ Patients can be detoxified from methadone without

their consent, or receive sub-optimal doses of methadone. In addition, patients can have their treatment terminated for a host of reasons, none of which apply to the treatment of any other chronic disease.⁹ The punitive clinic structure reinforces the stigma associated with drug use and could serve as a deterrent for someone seeking treatment for opioid dependence.

Recent regulations, effective May 2001, have shifted federal oversight of narcotic treatment programs, such as methadone maintenance, from direct inspection by the FDA to The Substance Abuse and Mental Health Services Administration's (SAMSHA) Center for Substance Abuse Treatment (CSAT). According to SAMHSA, the goal is to "move methadone treatment closer to the mainstream of the nation's health care system, and help reduce the stigma associated with that treatment. As a result, physician interest in office-based practice may increase, and hospitals and HMOs...may begin to expand or initiate these narcotic addiction treatment services."¹⁰

Just how these new regulations will expand access to methadone remains unclear.¹¹ The regulations provide little information on how the current methadone treatment system will change and the role of physicians in dispensing methadone from an office-based setting.

Harm Reduction

Harm reduction, premised on the understanding that addiction is a chronic, relapsing disease, constitutes a public health approach to substance use with services designed to reduce the negative consequences of drug use.

Harm Reduction in Historical Perspective

The concept of harm reduction was formulated in the Netherlands in early 1970s and has been broadly defined in Europe to focus on the management, rather than the prohibition, of drug use.¹² In the late 1980's, the concept of harm reduction was applied to HIV prevention in Europe. In the United States, harm reduction has focused almost exclusively on the prevention of HIV, but is currently broadening in scope.

In the U.S., harm reduction services work as a parallel to the drug treatment system, serving people for whom traditional treatment has not been effective or people not ready for traditional substance abuse treatment. Harm reduction services can include the provision of clean needles and safe injection information, case management, HIV testing and counseling, support groups, peer support, legal services, medical and mental health services, and acupuncture. Harm reduction services often serve as a gateway to medical care.

Conflict Between Harm Reduction and Drug Treatment

Unfortunately, an ideological divide between drug treatment and harm reduction services has fostered a dearth of established connections between harm reduction programs and drug treatment. However, this schism is narrowing as some treatment providers stress the value in

We're open about harm reduction. If a patient doesn't want treatment, we refer them to harm reduction. We do this because 60% of the people leave treatment. Many of them can't go through the demands. By introducing them to harm reduction, it is our hope that they will go there when they leave. We want them to know what harm reduction is. One hundred percent of the program participants are positive about their time spent at the harm reduction program.

—A substance abuse treatment provider¹³

introducing their patients to harm reduction, and harm reduction programs include referrals to drug treatment for their clients who request them.

Harm Reduction in HIV Prevention

Many harm reduction programs focus on the provision of clean needles and injecting paraphernalia for injection drug users.

Syringe exchange

Currently, syringe exchange programs may not provide syringes with federal funding. Until recently, New York State law prohibited the distribution and possession of injection paraphernalia without a prescription. Since 1995, nine syringe exchanges have been operating with a waiver from this law, issued by the Commissioner of Health. As a condition of this waiver, these programs operate within comprehensive programs of harm reduction, providing syringes as well as HIV prevention, education, and access to treatment. These programs have had notable success in engaging New Yorkers at highest risk for HIV infection.¹⁴

While syringe exchange programs often refer people to health care, primary care providers can be an important resource for their substance-using patients about how to access harm reduction services. As one primary care provider recommended, “Talk to your patients. If they are injection drug users, ask them about needles and where they go to get clean needles. Focus on the importance of clean syringes and tell them where they can get them.” A list of syringe exchange programs in New York City has been included in the manual’s Resource chapter.

Expanded Syringe Access Demonstration Program

The Expanded Syringe Access Demonstration Program (ESAP) became effective on January 1, 2001. This legislation allows for pharmacies and

health care providers to register with the New York State Department of Health to distribute syringes without a prescription. This program provides an opportunity for health care providers to engage with their patients in a discussion of syringes and their availability, whether or not an individual provider or facility has registered to participate.

Providers can stress to their patients the importance of using clean needles when injecting drugs and provide them with written information about the pharmacies in the patient's and/or the provider's neighborhood that are registered to sell syringes. Providing patients with this information is especially important because ESAP regulations do not permit registered pharmacies to advertise that they sell syringes without prescription.

Information about registered pharmacies is available on the New York State Department of Health's website at <http://www.health.state.ny.us/nysdoh/hiv aids/esap/provdirect.htm>.

Criminal Justice System

The criminal justice system influences public policy toward substance use through drug laws, court-mandated treatment, child custody regulations, and its influence on public assistance programs.

Rockefeller Drug Laws

In 1973, New York State instituted drug laws that resulted in mandatory minimum sentences for all drug offenses. Second Felony Offender laws mandated significantly increased sentences. In New York, 30,000 people a year are indicted for drug felonies. Fifty-six percent of the women currently in prison were sentenced for non-violent drug crimes and 94.3% of African Americans and Latinos are incarcerated for drug charges. The effects of long-term and intermittent incarceration disrupt every aspect of a person's life, from health care to housing.

Court Mandated Treatment

In 2000, New York City began a comprehensive substance abuse initiative, which includes court-mandated treatment for non-violent offenders. Non-violent offenders are mandated into treatment, under supervision of the court, instead of serving jail time. A person's progress in treatment is monitored, and participants receive "graduated sanctions" if they do not fulfill the court-ordered treatment requirements.¹⁵ The last sanction is incarceration and the loss of public assistance. In New York City, this program is modeled on an earlier demonstration program called Drug Treatment Alternatives to Prison (DTAP), begun in 1990. The outstanding criminal cases of DTAP program participants who are unstably housed are kept open until they access housing. However, they are unable to access publicly funded housing as long as their criminal cases are open.

Child Custody Regulations

The increasing incarceration of people with drug offenses has also been accompanied by a rise in the termination of parental rights, leading to the permanent dissolution of families. The 1997 Adoption and Safe Families Act (ASFA) requires states to file for termination of parental rights for children who have been in foster care for the past 15 out of 22 months. Those who receive a criminal sentence of 15 months or more, and have no family support to provide childcare, they will lose their children permanently.¹⁶ In New York State, this law also requires substance abuse treatment programs to begin to address family reunification issues with their clients early in the course of their treatment. However, many treatment providers are reluctant to bring up these issues when someone is new to treatment for fear of relapse.¹⁷

Public Assistance Programs

When an individual is incarcerated, his or her Medicaid and Public Assistance are terminated. When an individual is released from prison, he or she must reapply for benefits. He or she is unable to reapply while in prison, and so faces, upon release, a gap in public assistance. Many people are lost to care during this time because of the strain that this discontinuity imposes.

Issues Specific to Women

Issues specific to women include pregnancy and loss of child custody due to substance use during pregnancy.

Pregnancy and Substance Use

Women are punished for drug use during pregnancy. According to New York State guidelines, medical and hospital personnel are required by law to report suspected cases of child abuse and maltreatment to the Administration for Children's Services (ACS).¹⁸ ACS can take a person's child away if a hospital determines that there is "imminent"—immediate and serious—danger to the health and safety of the child.¹⁹ While removal of the child is not inevitable, these guidelines establish the legal framework for hospitals to require reporting to the ACS suspected maternal substance use.

Loss of custody due to drug use during pregnancy

There is a national trend toward punishing women for substance use for its effects on the fetus prenatally and on the child at birth and after birth. As a consequence of this trend, many substance-using women are losing custody of their children. This trend is especially troubling given the fact that many obstacles to treatment exist for pregnant women and women with children. In addition, women incarcerated for an extended period of time can lose their children under the Adoption

and Safe Families Act guidelines (see Criminal Justice Section). This law has had a particularly devastating effect on women, given their increasing incarceration for nonviolent drug offenses.

Barriers to treatment for pregnant women and women with children

Pregnant women face considerable barriers in accessing substance abuse treatment. A survey of pregnant women's access to treatment in New York City found that several treatment programs were reluctant to accommodate pregnant women on Medicaid.²⁰ Three quarters of the programs did not offer childcare, effectively barring women with children from treatment. In addition, there was little recognition among program staff of a woman's need for prenatal care. Combined, these factors highlight the difficulties inherent in a treatment system ill equipped to attend to the needs of pregnant women and women with children.

Conclusion

This chapter, while by no means exhaustive, has introduced several of the barriers that substance users may face in accessing treatment, public assistance, and health care. While these barriers impinge upon a physician's ability to provide continuity of care, physicians should be aware of the struggles substance users face and the myriad factors that contribute to the discontinuity of health care. The main points a primary care provider should keep in mind when caring for substance users are as follows.

Main points for providers caring for substance users

- Substance users must exert considerable energy and time navigating the social service system, often forsaking health care to access housing or income support.

- Substance users have a difficult time accessing benefits and health care because of the rules inherent in the public assistance system that penalize them for their substance use.
- Substance users' Medicaid can easily be disrupted making it difficult for them to access healthcare consistently.
- Incarceration imposes discontinuities in care, with substance users required to reapply for benefits upon release.
- Substance users disabled by their substance abuse are no longer eligible for SSI, once an important source of income support for many substance users.
- HIV testing and counseling should be a routine part of medical care. HIV-infected substance users in New York can access a strong network of health care in addition to HIV-specialized services ranging from substance abuse treatment to housing.
- In New York City, there is a comprehensive system of Harm Reduction and Recovery Readiness services to which physicians can refer their substance-using patients. This system is especially important if the primary care facility does not have the capacity to provide their patients with case management.
- Substance users may be reluctant to disclose their substance use to their primary care provider because of the belief that they could be penalized for this information.

It is helpful for physicians to understand how the stigma surrounding substance use, as exacerbated by punitive public policies, contributes to their patients' fears of disclosure, and how their substance-using patients' struggles to negotiate these policies affect, and often undermine, their ability to access health care.

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BASIC RESOURCES

Substance Abuse and Treatment Information Federal, State and City Agencies

Organization	Types of Services	Contact
Substance Abuse & Mental Health Services Administration (SAMHSA)	Federal agency charged with improving the quality and availability of prevention, treatment, and rehabilitative services. Provides substance abuse and mental health information.	(310) 443-8956 www.samhsa.gov
Center for Substance Abuse Prevention (CSAP)	Sole Federal organization with responsibility for improving accessibility and quality of substance abuse prevention services. Provides substance abuse education and prevention information.	(301) 443-0365 www.samhsa.gov/csap.htm
Center for Substance Abuse Treatment (CSAT)	Federal agency works to expand the availability of effective treatment and recovery services for alcohol and drug problems. Employs use of evaluation results to enhance treatment and recovery approaches.	(301) 443-2467 www.samhsa.gov/csat.htm
National Clearing House for Alcohol & Drug Information (NCADI)	The Federal information service of CSAP, SAMHSA, HHS. It is the largest resource for current information and materials concerning substance abuse.	(301) 468-2600 www.health.org
National Institute on Drug Abuse (NIDA)	Provides strategic support for and conducts research across a broad range of disciplines on the health aspects of drug abuse and addiction. Facilitates the rapid and effective dissemination and use of the results of that research to significantly improve drug abuse and addiction prevention, treatment, and policy.	(301) 443-1124 www.nida.nih.gov

Organization	Types of Services	Contact
American Society of Addiction Medicine (ASAM)	The nation's medical specialty society dedicated to educating physicians and improving the treatment of individuals suffering from alcoholism and other addictions.	(301) 656-3920 www.asam.org
Physician Leadership on National Drug Policy	The first all-physician group of its kind, working to promote a national drug policy that is cost-effective in both human and economic terms.	(401) 444-1817 plndp@brown.edu
LIFENET	NYC hotline provides 24hr/7 days per week substance abuse and mental health information and referral services.	(800)543-3638 (877)298-3373 (Spanish)
Alcoholics Anonymous (AA)	An international fellowship of men and women who have had a drinking problem. It is nonprofessional, self-supporting, nondenominational, multiracial, apolitical, and available almost everywhere. Uses 12-step model.	(212) 929-6262 For directory of meetings around NYC area.
Narcotics Anonymous (NA)	Narcotics Anonymous is an international, community-based association provides a recovery process and support network for recovering addicts. Uses 12-Steps and 12 traditions of NA.	(212) 647-1680
Cocaine Anonymous (CA)	Self Help Groups.	(212) 262-2463
Substance Abuse Libraries & Information Specialists (SALIS)	An international association of individuals and organizations with special interests in the exchange and dissemination of alcohol, tobacco, and other drug (ATOD) information.	(501) 642-5208 http://salis.org

Organization	Types of Services	Contact
New York State Office of Alcoholism and Substance Abuse Services (OASAS)	NY State Agency addressing alcohol and substance use issues.	(518) 473-3460 www.oasas.state.ny.us
Lower Manhattan Unit	OASAS Downstate Regional Managers office for advise and consultation about determining the most appropriate treatment provider for a specific patient.	(646) 728-4561
Upper Manhattan Unit	Same as above.	(646) 728-4566
Brooklyn Unit	Same as above.	(646) 728-4549
Queens/S.I. Unit	Same as above.	(646) 728-4592
Bronx Unit	Same as above.	(646) 728-4544
OASAS Client Advocate Unit	Handles patient drug treatment complaints.	1(800) 553-5790
NYS Office of Alcoholism and Substance Abuse Services Hotline	Provides information to providers and consumers on substance abuse, treatment referral throughout the 5 boroughs and statewide.	(800) 522-5353
NYC Department of Mental Health, Mental Retardation and Alcoholism Services	City agency for information on mental health and substance abuse services.	(212) 219-5380
Urban Research Center/Harlem	A web-based referral guide for community service providers working in NYC Harlem community.	http://www.nyam.org/divisions/urbanepi/resource.shtml

SYRINGE EXCHANGE PROGRAMS

Syringe Exchange Program	New York City: Syringe Exchange Sites	Service Delivery Model
Association for Drug Abuse Prevention and Treatment, Inc.	109th Street between Lexington and Third Avenues, East Harlem, Manhattan 10029	Street-based
Citywide Harm Reduction	Camden Resident Hotel, 206 W. 95th Street, NYC 10025	Door-to-Door
	Marion Hotel 1612 Broadway, NYC 10025	Door-to-Door
	Riverside Hotel, 312 W. 109th Street, NYC 10025	Door-to-Door
	California Suites, 610 West 111th Street, Upper West Side, Manhattan 10025	Door-to-Door
New York Harm Reduction Educators, Inc.	126th Street between Lexington and 3rd Avenues, East Harlem 10035	Street-based
Housing Works, Inc.	130 Crosby Street, Soho, Manhattan, 10012	Store Front
From Our Streets with Dignity (FROST'D)	123rd Street and Park Avenue, East Harlem 10035	Street-based
Lower East Side Harm Reduction Center	39 Avenue C, between 3rd and 4th Streets, Lower East Side 10029	Store Front
	Roving Teams in the general areas of Essex, Delancey, and Pike Streets and under Manhattan Bridge, Lower East Side.	Street-based
	The Street Work Project satellite site, 545 8th Avenue, between 37th and 38th Streets, Manhattan 10018	Store Front
Positive Health Project (PHP)	301 West 37th Street, Second Floor, Chelsea Clinton, Manhattan, 10018	Store Front

Syringe Exchange Program	Brooklyn: Syringe Exchange Sites	Service Delivery Model
Association for Drug Abuse Prevention and Treatment, Inc.	Classon Avenue between Putnam Ave. and Fulton St., Bedford Stuyvesant, 11238	Street-based
	Corner of South 5th Street and Marcy Avenue, Williamsburg, 11211	Street-based
	Corner of Putnam and Knickerbocker Avenues, Bushwick, 11237	Street-based
Comrades in A.R.M.S Bushwick Community Service Society	1630 Broadway, Bushwick, 11207	Store Front
	406 Mother Gaston Boulevard, East New York, Brooklyn, 11212	Store Front
From Our Streets with Dignity (FROST'D)	West 22nd Street and Surf Avenue, Coney Island, Brooklyn 11224	Street-based

Syringe Exchange Program	Bronx: Syringe Exchange Sites	Service Delivery Model
CitiWide Harm Reduction	Carver Hotel, 980 Prospect Avenue, Hunts Point, 10459	Door-to-Door
	Webster Hotel, 1930 Webster Avenue, East Tremont, 10457	Door-to-Door
	Park Overlook Hotel, 1938 Webster Avenue, East Tremont, 10457	Door-to-Door
	University Hotel, 2532 University Avenue, University Heights, 10468	Door-to-Door
From Our Streets with Dignity (FROST'D)	Longfellow and Seneca Avenues, Hunts Point, Bronx 10474	Street-based
New York Harm Reduction Educators, Inc.	Garrison Street between Irvine and Hunts Point Avenues, Hunts Point, 10474	Street-based

Syringe Exchange Program	Bronx: Syringe Exchange Sites	Service Delivery Model
New York Harm Reduction Educators, Inc. continued	Jerome Avenue and Clinton Place, Southwest Corner Morris Heights, 10453	Street-based
	148th Street between Bergen and Brook Avenues, Mount Haven, 10455	Street-based
	Corner of Ward and Watson Avenues, Soundview 10472	Street-based
St. Anne's Corner of Harm Reduction	312 Cypress Avenue, 2nd floor, between 140th and 141st Streets, South Bronx, 10454	Store Front
	139th Street between Brook and St. Anne's Avenues, South Bronx 10454	Street-based
	148th Street and Bergen Avenue, South Bronx, 10455	Street-based

EXPANDED SYRINGE ACCESS DEMONSTRATION PROGRAM (ESAP)

Expanded Syringe Availability Program	Expanded Syringe Availability Program Pharmacies and healthcare providers registered with the NYS-DOH/AIDS Institute sell syringes (up to 10) to individuals 18 years or older without a prescription. All participating pharmacies and a small number of providers are listed at website.	www.health.state.ny.us (800) 541-AIDS
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INFORMATION HOTLINES for PATIENTS

Organization	HIV/AIDS, STDs and Hepatitis	Phone & E-mail
STD Hotline	Provides anonymous, confidential information on sexually transmitted diseases (STD) and how to prevent them. Also, provides referrals to clinical and other services.	(800) 227-8922
National Hepatitis Hotline	American Liver Foundation. Provides information on hepatitis, liver and gallbladder disease.	(800) GO-LIVER (800) 465-4837
HIV/AIDS Treatment Hotline	Information on treatment of HIV and AIDS.	(800) 822-7422
AIDS Treatment Service (ATIS)	Provides treatment guidelines, documents on general treatment information, nutrition, hepatitis-C co-infection and other relevant clinical topics.	(800) HIV-0440 www.hivatis.org
The Body	Offers information on HIV prevention and treatment, co-morbidities and upcoming conferences on HIV/AIDS.	www.thebody.com
Aegis	Comprehensive web sites of HIV information and resources.	www.aegis.com
Agency	Entitlements	Phone & E-mail
HRA (Human Resources Administrations)	Information and referral for Medicaid, food stamps, cash assistance, childcare, job training and placement.	(877) 472-8411
ADAP	Information on how to get no-cost HIV/AIDS drugs and health care.	(800) 542-2437
DASIS Serviceline	Information and referral for services available from the Division of AIDS Services and Income Support for people with symptomatic HIV and people with AIDS.	(212) 971-0626

Agency	Entitlements	Phone & E-mail
Social Security and Medicare Information	Information on social security and Medicare, help with applications, payments and other paperwork, locates the closest Social Security office to you.	(800) 772-1213

OTHER SOCIAL SERVICE SUPPORT

Women's Healthline	Information on birth control, pregnancy and abortion.	(any area code) 230-1111
WIC (women, infants and children nutrition program)	Food checks for pregnant women, women with babies, and children.	(212) 268-7593
Domestic Violence Hotline	Assistance in finding a safety plan or shelter, legal services, and childcare.	(800) 621-4673
National Alliance for the Mentally Ill Helpline (NAMI)	Provides information on NAMI, mental health illness. Specific disorder, medication, or support group information.	(800) 950-6264

EDUCATIONAL RESOURCES for PHYSICIANS

Organization	Types of Services	Contact
HIV Medication Guide	Drug information as well as software to access potential drug interactions.	www.ja.on.ca/asp_bin/Main.asp
AIDS Treatment Data Network		(800) 734-7104
AIDS Education and Training Centers Warmline	Medical professionals can call with questions related to any topic of HIV care.	(800) 933-3413

Organization	Types of Services	Contact
AIDS Treatment Service (ATIS)	Provides treatment guidelines, documents on general treatment information, nutrition, hepatitis-C co-infection and other relevant clinical topics.	(800) HIV-0440 www.hivatis.org
The Body	Offers information on HIV prevention and treatment, co-morbidities and upcoming conferences on HIV/AIDS.	www.thebody.com
Aegis	Comprehensive web sites of HIV information and resources.	www.aegis.com
The Chicago Recovery Alliance	Provides information on harm reduction outreach programs, harm reduction techniques and Hepatitis-C.	www.anypositivechange.org
National Drug Abuse Hotline	Offers information on alcohol and drugs, treatment and referral information for substance abuse.	(800) 662-4357

SELECTED ASSESSMENT INSTRUMENTS

This list is not intended to be comprehensive but to offer brief description of some of the more common assessment instruments, some of which are mentioned in this manual.

Instrument	Description	Where to Order
Addiction Admission Scale (AAS)	An MMPI-2 scale that detects alcohol/drug abuse problems in the context of a clinical personality assessment. The 13-item assessment requires 60-90 minutes to complete.	National Computer Systems Assessments Division Minneapolis, MN 55343 Phone: (800) 627-7271
Addiction Severity Index (ASI)	The most widely used tools for the assessment of substance use related problems in adults. The ASI consists of approximately 200 items and is administered by a trained interviewer during a client interview. Initial assessment takes approximately 45 minutes to complete.	http://www.assessments.com/purchase/
Alcohol Clinical Index (ACI)	The ACI is a versatile instrument for use by physicians, nurses and other health professionals to identify alcohol problems among patients (clients). It consists of 54 items and takes 15 minutes to complete.	Marketing Sources Addiction Research Foundation 33 Russell Street Toronto, Ontario, Canada M5S 2S1 (416) 595-6000
The Alcohol Use Disorder Identification Test (AUDIT)	AUDIT was developed by the World Health Organization to identify persons whose alcohol consumption has become hazardous or harmful to their health. AUDIT is a 10-item screening questionnaire that requires 2 minutes to complete.	Thomas F Babor Alcohol Research Center University of Connecticut Farmington, CT 06030-1410 USA
CAGE	The CAGE is a very brief, relatively non-confrontational questionnaire for detection of alcoholism. Four-item assessment takes less than 1 minute to complete.	www.niaaa.nih.gov/publications/instable.htm

Instrument	Description	Where to Order
Substance Abuse Subtle Screening Inventory (SASSI)	The SASSI is a short, one-page self-report screening tool for chemical dependency. It takes 15 minutes to administer.	The SASSI Institute (800) 726-0526
Drug Use Screening Inventory	The DUSI measures severity of problems in 10 domains. It is used for measuring current status, identifying areas in need of prevention and change over time, or following outcome after a treatment intervention. It consists of 159 items, requires 20 minutes to complete. It can be self administered or by interview.	Gordian Group P.O. Box 1587 Hartsville, SC 29550 phone: (803) 383-2201 fax: (803) 383-2201
The Michigan Alcohol Screening Test (MAST)	The Michigan Alcohol Screening Test (MAST) is a relatively simple and widely used screening instrument for the detection of alcoholism in adults. It consists of 25 face-valid questions that require a simple “yes” or “no” answer, which can be rapidly administered. The MAST can be self-administered or administered by an interviewer and takes approximately 10 minutes to complete.	http://www.assessments.com/purchase/
T-ACE	The T-ACE is a four-item questionnaire usable in assessing pregnant women for risk drinking in a clinical practice setting. Takes 1 minute to administer.	S. Martier, Ob/Gyn 4707 Saint Antoine Detroit, MI 48201
The TCU Drug Screen II (TCUDS II)	The TCU Drug Screen II (TCUDS II) is a standardized 15-item screening tool that helps identify individuals with a history of heavy drug use or dependency. The instrument is widely used in adult criminal justice and correctional settings. The TCUDS II takes approximately 5 minutes to complete and can be used either in an interview setting or self-administered.	http://www.assessments.com/purchase/



The New York Academy of Medicine

1216 Fifth Avenue

New York, New York

10029-5293