

Second Edition

Harm Reduction

**Pragmatic Strategies
for Managing
High-Risk Behaviors**



Edited by

G. Alan Marlatt

Mary E. Larimer

Katie Witkiewitz

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In memory of G. Alan Marlatt

*His generosity, compassion, and brilliance
championed the harm reduction movement
and touched the lives of so many people worldwide.*

*We express our sincerest gratitude to Alan
for his gentle spirit and his extraordinary ability
to accept us exactly as we are. We miss him terribly.*

About the Editors

G. Alan Marlatt, PhD, until his death in 2011, was Director of the Addictive Behaviors Research Center and Professor of Psychology at the University of Washington. For over 30 years, Dr. Marlatt conducted pioneering work on understanding and preventing relapse in substance abuse treatment and was a leading proponent of the harm reduction approach to treating addictive behaviors.

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PREFACE



Seeing the Writing on the Wall

A Lesson in Harm Reduction

SUSAN E. COLLINS
G. ALAN MARLATT

As substance abuse treatment providers, we can feel unmoored by our work. Our clients may be reaching out for help for the very first time or they may be “repeat offenders” mandated to treatment. Sometimes our clients have lost their homes, friends, families, and jobs in the course of their struggles with substance use. It is therefore natural for us to seek a guiding philosophy to help our clients make sense of these often overwhelming issues. That’s why we should not have been surprised when we saw the sign taped to the wall of the staff break room at a local substance abuse treatment facility. The words were printed in a simple, black font on a white, letter-size sheet of paper:

“Our clients are very sick and they often lie to us.”

This sign, which could have been found in any number of treatment agencies across the country, was a powerful reminder of the socially constructed and culturally embedded rules, values, and norms that guide our understanding, assessment, and treatment of substance use disorders. Our deeply held convictions regarding the “truth” about our clients and the “right” way to intervene are the products of our own cognitive schemas

and overlearned behaviors as researchers and clinicians. Recognition of this fact can take some of the absolutism out of the way we view and treat substance use disorders. Next, we must unpack and examine these assumptions. Only then can we put them aside, truly align with our clients, and practice harm reduction.

As we explore in the chapters that follow, harm reduction represents both an attitude and a set of compassionate and pragmatic approaches designed to reduce the harm stemming from high-risk behaviors and increase quality of life for affected individuals and their communities (Marlatt, 1998). Based on our own experiences, however, it may be helpful to first understand what harm reduction is *not* before defining what harm reduction is.

"Our clients are very sick"	→	disease/medical model
"... and they often lie to us."	→	moral model

This sign documented the paradoxical yet happy marriage of the disease and moral models as the dominant approach to the treatment of substance use disorders in the last century. Within this belief system, substance abuse treatment professionals are given the power to diagnose a substance use disorder, which is defined as a "chronic, relapsing brain disease" (Leshner, 1997). Once people are diagnosed with a substance use disorder, their behavior is believed to be alternately divorced from their control (e.g., "chronic, relapsing brain disease") and a matter of rallying their motivation for change (e.g., "Keep coming back. It works if you work it!") (May, 2001). Next, the moral model kicks in: this disease is so malignant and pervasive that it engenders character defects. In turn, these character defects precipitate the inevitable result: "addicts lie." In other words, the "disease" makes people so uncontrollably "bad" that they have no choice but to cede their will and lives to a higher power, and this is where the disempowerment in many abstinence-based treatment programs begins.

This may sound like a disheartening beginning to the book. However, we should add that, at the bottom of the sign, someone had handwritten, "... and sometimes they tell the truth." This hopeful counterstatement is where harm reduction stands today. It reflects a small yet growing voice in the public discourse on substance use, sex, and other health-related behaviors that put people at risk for harm. Unlike the disease and moral models of substance use, harm reduction focuses less on individually located psychopathology and morality and more on the larger social context for substance use. It allows for complexity and nuance in our understanding of human behavior. It empowers affected individuals to take control of their behavior on their terms. It focuses on reduction of harm *and* improvement of quality of life. It inspires compassionate and pragmatic solutions for affected individuals and their communities.

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HARM REDUCTION

PART I



OVERVIEW OF HARM REDUCTION

CHAPTER 1



Current Status, Historical Highlights, and Basic Principles of Harm Reduction

SUSAN E. COLLINS
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Some 14 years after the publication of the first edition of this book, harm reduction remains both highly promising and highly controversial. Few approaches these days show as much potential for global reach in reducing harm associated with high-risk behaviors and improving quality of life (QoL), particularly among marginalized and underserved populations (World Health Organization, 2009). At the same time, harm reduction in its various manifestations continues to engender heated debate that has frustrated proponents (e.g., Ball, 2007) and opponents (e.g., Leshner, 2008) alike.

Paradoxically, the growing controversy surrounding harm reduction, its operationalization, and its application likely reflect the fact that arguments for harm reduction have finally joined the mainstream on how to more effectively approach high-risk behaviors. A recent Google search on the term *harm reduction* revealed more than 5 million hits, and a PubMed

search yielded more than 2,000 articles, nearly two-thirds of which were published within the last 5 years. In 2010, *Lancet* and the *British Medical Journal* ran a feature and a series, respectively, on harm reduction approaches for HIV prevention. The Council of the European Union (2004), UNAIDS (2010), and the World Health Organization (2009) have all recently recommended comprehensive harm reduction packages affecting policy, prevention, intervention, community-based education, and advocacy efforts. In many ways, harm reduction has truly hit its stride as a worldwide movement.

In the previous edition of this book, we started Chapter 1 with the sentence, “Harm reduction has finally arrived in the United States.” Indeed it had arrived, but to a relatively cool reception from U.S. policymakers. In previous federal administrations, proponents of harm reduction were marginalized, and harm reduction approaches were often criminalized (Moskalewicz et al., 2007; Riley & O’Hare, 2000). Fortunately, at the time we are writing this chapter, harm reduction is enjoying a warmer welcome. The current Obama administration has reconceptualized drug policy as “both a public safety and a public health problem” instead of a “war on drugs” (Kerlikowske, 2010), and has removed the federal ban on needle and syringe programs (Consolidated Appropriations Act, 2010). Of course, the recent movement toward integration of harm reduction policy into U.S. law has occurred long after the enactment of more comprehensive harm reduction policies in many countries in Europe, South America, the Middle East, and Asia (Ball, 2007).

This movement toward less restrictive policy in the United States has not, however, lessened the confusion and controversy surrounding what constitutes harm reduction. On the one hand, harm reduction approaches, such as low-barrier, nonabstinence-based Housing First programs, have been embraced by Housing and Urban Development (HUD) Secretary Shaun Donovan, who has noted, “For people experiencing chronic homelessness, the research is clear that permanent supportive housing using a Housing First approach is the solution.” On the other hand, “drug czar” Gil Kerlikowske (2010) has expressed concerns about explicit use of the term *harm reduction*:

You know, oftentimes we get asked about, “Well, how do you think about or talk about harm reduction here in the United States?” We actually don’t use that term. And we don’t use that term for a very specific reason, and that is because it is so subject to everyone’s own individual interpretation. I have heard people talk about harm reduction in a discussion about legalization, and I have heard people talk about harm reduction as mentioned in these other ways: decriminalization and et cetera.

This seeming contradiction in U.S. policy reflects the confusion about the definition of harm reduction. Many involved in HIV/AIDS, homelessness,

and substance abuse prevention, policy, treatment and advocacy are appreciative of the specific, practical, and effective solutions that fit under the umbrella of harm reduction (e.g., low-barrier supportive housing, needle and syringe programs, drinking and driving prevention). Many question, however, whether the term “harm reduction” has become too broadly conceived to be useful (Ball, 2007). Others have resorted to alternative terms (e.g., risk reduction, harm minimization) to avoid the harm reduction label and its associated controversy (Ball, 2007). Still others would choose to abolish the term altogether out of concern that it has been misappropriated by drug legalization advocates (Leshner, 2008).

There are also concerns within the harm reduction movement. For example, the emphasis on comprehensive harm reduction policy, prevention, and treatment packages that have been championed by public health officials (e.g., Beyrer et al., 2010), have often used a more top-down policy approach without integrating voices of the “user”-driven grassroots movements (Friedman et al., 2007). Others believe that harm reduction is and must be a fundamentally “user”-driven approach, as its successful implementation ultimately depends on the participation of affected individuals (Hathaway & Tousaw, 2008). These various concerns reflect not only the lack of clear definition but also the differing senses of ownership of harm reduction: Is it a grassroots movement for affected individuals to empower, educate, and protect themselves? Is it a public health stance that influences worldwide drug control policy? Is it a psychotherapy? Is it sex education? Is it drug decriminalization?

The fact is that these various definitions reflect a diverse movement that values contributions of both communities and individuals, of scientific discovery and human rights advocacy, of grassroots and public health movements. This diversity of approaches and impetus to work in a more multilevel, multidisciplinary way can be energizing and ultimately more effective at various levels of society. Viewed through this lens, the growing confusion and controversy surrounding harm reduction may simply indicate its accelerating growth in various fields and acceptance by those working with affected individuals and their communities. The richness of this movement suggests that now is the time to embrace this diversity and use it as an opportunity to more effectively link top-down, global public health approaches with bottom-up grassroots advocacy to extract maximum effectiveness and reach from harm reduction applications (Stimson, 1998).

In this book, we therefore seek to explore and embrace the diversity of harm reduction instead of trying to simplify its definition or constrain its reach. In this chapter, we define and examine harm reduction as a set of compassionate and pragmatic approaches for reducing harm associated with high-risk behaviors and improving quality of life (QoL). Next, we review historical highlights of harm reduction, emphasizing the equally important

contributions of bottom-up, grassroots movements and top-down, public health contributions at key points during its historical development. We then discuss the principles of harm reduction, which were formed by this historical development and have reframed our understanding of high-risk behaviors. Finally, we discuss harm reduction's future promise in integrating grassroots and public health efforts to reduce the harms associated with high-risk behaviors and to improve QoL for affected individuals and their communities.

DEFINING HARM REDUCTION

David Purchase, the director of the North American Syringe Exchange Network, has noted that harm reduction is more of an “attitude” than a fixed set of rules or regulations, and has described this attitude as a humanitarian stance that accepts the inherent dignity of life and facilitates the ability to “see oneself in the eyes of others” (Marlatt, 1998a, p. 6). This overarching attitude has given rise to a set of compassionate and pragmatic approaches that span various fields, including public health policy, prevention, intervention, education, peer support, and advocacy. These approaches aim to reduce harm stemming from health-related behaviors (e.g., substance use, risky sexual behavior) that are considered to put the affected individuals and/or their communities at risk for negative consequences, which we refer to in this book as “high-risk behaviors.” These approaches also seek to improve QoL for affected individuals and their communities (Harm Reduction Coalition, 2010). The application of pragmatic and compassionate approaches to achieve harm reduction and QoL enhancement grew out of a recognition that some people will continue to engage in high-risk behaviors even as they experience associated harms. For these individuals, harm reduction approaches provide a middle way alternative between total abstinence and continued harmful use/behavior and thereby open other pathways for change, while reducing negative consequences for both the affected individual and their communities.

Compassionate Stance

The compassionate aspect of harm reduction refers to understanding and approaching high-risk behaviors in a way that is respected and inclusive of individuals affected by these behaviors and their communities (Denning, 2000; World Health Organization, 2004). Harm reduction reflects a humanistic perspective: people will make more health-positive choices if they have access to adequate support, empowerment, and education. Although the name “harm reduction” does not hide its directive stance, it

is increasingly recommended that affected individuals and their communities be involved in devising their own means to reducing harm and defining their own ends as to what harm reduction will comprise (UNAIDS, 2010). Thus, harm reduction approaches can more flexibly accommodate affected individuals' and communities' specific needs than other top-down, theory-oriented approaches.

Pragmatic Strategies

The pragmatic aspect of harm reduction refers to the application of what works to reduce overall harm in a scientifically demonstrable way that is in accordance with human rights protections (Degenhardt et al., 2010; Juergens, Csete, Amon, Baral, & Beyrer, 2010). Others have suggested that pragmatism in harm reduction also entails working within the belief system of the specific culture to create culturally competent and acceptable strategies (Ball, 2007; UNAIDS, 2010). In addition to introducing effective programs that reduce harm, pragmatism stipulates ending programs that, despite their apparently neutral effect, may do more harm than good in the overall public health scope. To illustrate this point, we provide an example from the recent literature on school-based sex education in the United States. Scientific review of the literature showed that abstinence-only sex education programs do not appear to be effective in consistently reducing teenage pregnancy (Bennett & Assefi, 2005). Abstinence-plus programs, which add instruction on appropriate condom use, likewise do not appear to have an effect on reducing teenage pregnancy, but do increase self-reported condom use and knowledge (Bennett & Assefi, 2005). In this case, application of a harm reduction approach would support the withdrawal of abstinence-only programs and the introduction of the abstinence-plus programs, because in the balance, the latter is likely to produce a greater overall reduction in harm (e.g., increased condom use would be associated with lower risk of transmission of sexually transmitted diseases). In this example, the pragmatic harm reduction approach might counter current popular, scientific, treatment, public health, or political belief systems. It is perhaps this aspect of harm reduction that engenders controversy, and thus requires a strong alignment of the proposed measures with scientific evidence, human rights standards, and cultural competence and knowledge to achieve acceptance, adoption, and, ultimately, effectiveness.

Defining Harm

Another important aspect of harm reduction is understanding what constitutes harm (Ball, 2007). Defining harm depends on various factors, including the culture, the level (e.g., individual, community, and societal),

and the constellation of targeted behaviors in the context of which harm is considered (Ball, 2007). To demonstrate this multifactor approach, we will use injection drug use and HIV risk as an example. We may consider harm on (1) an individual level (e.g., HIV contraction from shared needles, necrotizing skin infections); (2) a community level (e.g., unsafe drug use environments posing risks to the affected individual and their community, overburdened local police); and (3) a societal level (economic loss due high emergent use of publicly funded health services, increasing infection rates) (Riley & O'Hare, 2000). Given the particular set of circumstances in a specific culture and setting, what constitutes "harm" may look very different. The assessment should also take into account how damaging effects could potentially spill over into other levels and behaviors. For example, HIV contraction on the individual level may add up to increased infection rates and economic losses at the societal level, or HIV contraction may make the individual more susceptible to other blood-borne illness such as hepatitis C. It should also be noted that definitions of harm for individuals, communities, and larger societies may be at odds with one another, which taps into the long-standing debate in public health regarding the protection of individual civil liberties versus serving the collective good (Ashcroft, 2006; Bayer, 2007; Buchanan, 2008). Considering its complexities, defining harm in different situations warrants a thorough and tailored assessment with consideration of its contextual factors (i.e., culture, level, target behaviors) and their potentially transactional nature.

Defining Harm Reduction

Definitions of what constitutes harm reduction have varied widely in the literature and have not been without controversy (Ball, 2007; Heather, 2006; Leshner, 2008; Riley & O'Hare, 2000; Single, 1995). Deciding what a harm reduction approach will entail in a given situation requires a thorough analysis of the targeted harm, the context (i.e., culture, feasible approaches, targeted level and areas), and additional harms that might be encountered in other areas as harm is reduced in one (Degenhardt et al., 2010). Considering the hierarchy we discussed in the previous section, a comprehensive harm reduction approach might involve (1) peer education about safer injection on the individual level, (2) establishment of safe-injection centers on the community level, and (3) decriminalization of certain aspects of personal drug use on the societal level. Comprehensive harm reduction packages should encompass the various levels (individual, community, societal) and areas (grassroots advocacy/education, environmental, policy) to which they are applied. Such a multidimensional understanding of harm reduction is key to ensuring acceptability, feasibility, effectiveness, and reach of the approach in specific applications (Ball, 2007; Merzel & D'Aflitti, 2003).

What constitutes adequate evidence of harm reduction may also vary based on the scope of the evaluation. Targeted outcomes may range from individual-level micromovements toward harm reduction (e.g., performing high-risk behaviors more consciously) (Denning, Little, & Glickman, 2004), to more clinically significant risk reduction (e.g., increased condom use to reduce risk of HIV transmission) (Harm Reduction Coalition, 2010), to decreased community-level (e.g., lower neighborhood crime) and societal (e.g., lower publicly funded health care expenditures) burden. Effective harm reduction ideally should also lead to benefits in other areas (e.g., drug decriminalization on the policy level could lead to less burdened local police departments) but not to extra, unforeseen costs (Riley & O'Hare, 2000). In keeping with the spirit of harm reduction, perhaps the key to evaluating outcomes is defining and working toward clinically significant change while acknowledging any positive movement toward reducing harm.

Defining QoL

QoL was originally operationalized as the absence of disease using researcher-defined medical and psychological limitations as markers (Cummins, Lau, & Stokes, 2004). More recently, QoL has been more broadly conceived (Valderas et al., 2008), which might explain why a consistent definition has been elusive (Dijkers, 2007). Recent research has made a distinction between QoL, or subjective satisfaction with life generally and/or across more specific domains, and health-related QoL (HRQoL), or the presence or absence of disorders. HRQoL is often incorporated under the umbrella QoL term, particularly when multiple domains are included. For example, the World Health Organization has included traditional physical and psychological domains (HRQoL) as well as social and environmental domains in their QoL assessments (Harper, Power, & WHOQOL Group, 1998). Another popular QoL measure, the Short Form Health Survey (i.e., SF-36 and SF-12) measures eight domains, including role limitations due to health-related problems, as well as health promotion constructs, including vitality and social functioning (Ware, Kosinski, & Keller, 1996; Ware & Sherbourne, 1992).

Despite the difficulty in operationalizing the term, health-related research has consistently emphasized the importance of focusing on QoL (Connor, Saunders, & Feeney, 2006) as a key goal in interventions (Institute of Medicine, 2006), as well as an integral part of defining successful outcomes (Betty Ford Consensus Panel, 2007). Implicit in nearly all QoL measures to date, however, is a unilateral focus on assessing and improving researcher- or clinician-defined QoL versus aligning with affected individuals and communities to understand what aspects of QoL are relevant to them. Such a one-sided focus may provide inaccurate or irrelevant information (De Maeyer, Vanderplasschen, & Broekaert, 2010). Thus, a harm

reduction approach to defining QoL would involve working with affected individuals and communities to create an appropriately tailored QoL definition. Such procedures will likely yield more acceptable, relevant, and obtainable goals toward achieving healthier and more satisfying lives for individuals, communities, and society at large.

EXPLORING THE ORIGINS OF HARM REDUCTION

We have alluded to the push and pull between the relatively top-down public health approaches and bottom-up grassroots advocacy that have shaped harm reduction principles and practice. At any given point in its historical development, typically one of these two integral aspects of harm reduction has gathered more momentum and driven advancements in the field. In this section, we review key historical events highlighting the predominance of one or the other and the necessity of their eventual alliance. This list of events is not exhaustive and does not take into account the more recent infusion of harm reduction strategies around the globe (for comprehensive reviews of harm reduction work worldwide, see Aceijas, Hickman, Donoghoe, Burrows, & Stuijke, 2007; Ball, 2007; Bergstrom & Abdul-Quader, 2010; Mathers et al., 2010; Shahmanesh, Patel, Mabey, & Cowan, 2008). However, the following historical highlights provided the impetus for the development of harm reduction and have been instrumental in shaping the way we think about high-risk behaviors today.

The British System and the Rolleston Report

Harm reduction in one way or another has certainly been practiced since the earliest days of substance use. However, the beginnings of the modern harm reduction movement may be traced back to the early 1920s in Great Britain, when harm reduction approaches were officially indoctrinated into British law and medical best practices (Ashton, 2006).

During the 19th century, Great Britain had come to dominate the worldwide opium trade. At this time, opium- and cocaine-derived tinctures and preparations were readily available—at first through unregulated shops and later exclusively from pharmacists (Berridge, 1979). During the 19th and early 20th centuries, pharmacists and physicians in Great Britain worked together to provide, police, and prescribe opium and other drugs to the British public as well as to provide maintenance treatment to those who had become dependent (Berridge, 1979). At this time in Great Britain, substance dependence was widely viewed as individual pathology and a “very minor problem . . . a middle-class phenomenon confined to a large extent to the medical profession itself” (Berridge, 1984, p. 27). However,

the U.S. government became increasingly opposed to the opium trade and widespread opium use—including its prescription by physicians (Berridge, 1977; Rouse, 1990). Ultimately, a series of treaties were signed by Western powers throughout the early 1900s, which ended Great Britain's commercial opium trade. These treaties relegated the use of opiates and cocaine to legal sanction except for certain “legitimate” applications by the medical profession (Berridge, 1984, p. 19).

In 1920, Great Britain signed into law the Dangerous Drug Act (Ministry of Health Papers, 1919), which prohibited the importation and exportation of certain substances, including opium derivatives and cocaine. The Dangerous Drug Act, however, was vague about the licensing and regulatory framework governing the manufacture, sale, prescription, possession, and distribution of these drugs, including whether physicians and pharmacists could prescribe and distribute them as maintenance treatment (Berridge, 1980). Despite a keen interest in criminalizing all substance use, the vagueness of this Act reflected an admitted uncertainty among government officials about what would constitute appropriate use and prescription (Berridge, 1984). This lack of clarity was also a concern for physicians who were left open to prosecution for prescribing substances described in the Act. These concerns led to increased organization in the medical profession to oppose it.

Grudgingly acknowledging the fact that cooperation of the medical profession was needed to determine the appropriateness of the new drug policies, the regulating agency, the British Home Office, partnered with elite members of the British medical profession to reshape the policy (Berridge, 1984). Dr. John Rolleston, chairman of the Royal College of Physicians and a noted advocate of the disease model of substance use, headed up the resulting committee of physicians and government officials to draft what would be referred to as the Rolleston Report (Departmental Committee on Morphine and Heroin Addiction, 1926). This report was endorsed by the government (Ashton, 2006), and set up a means for physicians to prescribe and distribute cocaine and opium derivatives to registered patients “for relief of the morbid conditions intimately associated with the addiction” (Berridge, 1984, p. 27).

The legacy of the Rolleston Report is essential to our understanding of substance use, dependence, and treatment for many reasons. First, it institutionalized a now commonplace, top-down collaboration between governmental agencies and medical organizations in policing substance use and determining to whom and how controlled substances may legally be distributed. There was, at the time, very little involvement of the public and affected populations in these decisions (Berridge, 1984). As a result, the Rolleston Report also introduced the disease model of substance dependence and treatment into policy and practice. That said, the pairing of the disease model with harm reduction approaches (e.g., assisted heroin treat-

ment) was only maintained in the British system as long as the affected individuals were a relatively “limited, middle-class and respectable addict clientele” (Berridge, 1984, p. 28). By the 1960s and 1970s, when rates of substance use increased, particularly among the working classes, the pairing of the disease model with a zero-tolerance, abstinence-based policing approach became more widespread (Berridge, 1984).

Despite some negative aspects of its legacy, proponents of the British model recognized that substance use need not be criminalized. Instead, it was asserted that substance use could be regulated in such a way that affected individuals, who may be unable or unwilling to achieve abstinence, could continue to pursue their lives without fear of criminal prosecution or forced marginalization. In fact, the resurgence of interest in what is now called “assisted-heroin treatment” may be the Rolleston Report’s most recent legacy. As of 2007, seven countries in Europe and North America had completed trials on assisted-heroin treatment (Fischer et al., 2007). Today, five Western European countries, including Great Britain, currently support this practice as part of their national health systems. Although initially restricted to more privileged classes, the pragmatism and compassion that undergird the British model of drug maintenance provided the initial policy platform for current harm reduction approaches.

The Dutch Model and the Junkiebond

During the 1960s, the Netherlands recorded escalating drug use believed to be associated with its increasing availability and acceptability during the counterculture movements (Leuw, 1994). In response, state-sponsored and governmental agencies commissioned two primary advisory committees—the “official” Baan Committee (“Working Group on Narcotic Substances”) and the privately commissioned Hulsman Committee—with studying the addictive properties and risks of various drugs and ultimately proposing scientifically informed drug policy. In the early 1970s, these committees released their proposals, both of which recommended the decriminalization of personal drug use (vs. drug dealing and trade) and further differentiated between cannabis-derived products and “hard drugs” based on the perceived harm that could result from their use (Leuw, 1994). Furthermore, both committees recommended that penal drug policy should be compatible with social drug policy, and thus primary and secondary prevention should take priority over legal sanctions. Finally, they noted that certain risks associated with substance use may be more acceptable than others. This first “harm reduction”-oriented policy was enacted, with some revisions, in the 1976 Dutch Opium Act, which provided *de facto* decriminalization of the use of so-called “soft drugs” (Leuw, 1994; Ossebard & van de Wijngaart, 1998).

At first, harm reduction policies being introduced in the Netherlands supported tolerance for softer drugs but relied on the more traditional disease model and policing policies for “hard drugs” such as cocaine and opiates (Leuw, 1994). During the 1970s, however, use of opiates and cocaine—substances that had not previously been widely available—was on the rise. In the 1980s, the Dutch government responded by introducing harm reduction as the official approach to dealing with all kinds of substance use (Engelsman, 1989). This practice is still firmly embedded in Dutch drug policy today (van der Gouwe, Ehrlich, & van Laar, 2009).

The Dutch government’s continued pursuit of harm reduction policy is credited in part to the advocacy of the *Rotterdamse Junkiebond* (Rotterdam Junkie Union), an activist group of drug users started by Nico Adriaans in 1981. Adriaans has been described as a charismatic individual and eloquent speaker, who was respected by fellow heroin users, researchers, clinicians, government officials, and the general public alike (Grund, 1995). Under his leadership, the *Junkiebond* was able to advocate for basic rights and health care for substance users in an organized and systematic way. Specifically, members of the *Junkiebond* educated fellow users and the general public about substance use and its associated risks via popular media, organized demonstrations advocating for users’ access to methadone, began the distribution of sterile syringes, and collaborated with researchers to inform the field’s understanding of risky drug use practices (Friedman et al., 2007; Grund, Kaplan, & Adriaans, 1991; Grund, Stern, Kaplan, Adriaans, & Drucker, 1992).

One particularly important harm reduction approach advanced by the *Junkiebond* was the introduction of the world’s first government-backed needle exchange program in 1984. Although the *Junkiebond* had been distributing sterile syringes to users since 1981, the rise of the HIV/AIDS epidemic further mobilized its efforts. Members persuaded the Municipal and Regional Health Service to provide them with disposable needles and syringes in bulk once a week, which they distributed and exchanged (Marlatt, 1998b). After realizing the potential public health impact of this grassroots movement, the National Ministry of Health provided additional funding, and locally run programs were organized in 60 Dutch cities by the late 1980s (Friedman et al., 2007). As this program gained prominence, the number of exchanged needles and syringes rose from 100,000 in 1985 to over a million per year by the early 1990s (van Ameijden, van den Hoek, & Coutinho, 1994). As of 2009, needle and syringe programs had been implemented in 82 countries worldwide (Mathers et al., 2010). Although the effectiveness of singularly applied harm reduction techniques, such as needle and syringe programs alone, was not as consistent as initially hoped (van Ameijden et al., 1994), there is strong evidence supporting the effectiveness of comprehensive harm reduction efforts in reducing HIV transmission in the Netherlands (van den Berg, Smit, van

Brussel, Coutinho, & Prins, 2007), and around the world (Wodak & Cooney, 2006).

By the mid-1980s, there were some 35 *Junkiebonden* operating in 28 Dutch cities (Friedman et al., 2007). Since this time, likely due both to widespread acceptance of the policy and practices they helped introduce and struggles within management and leadership, the *Junkiebonden* have decreased in numbers and exposure (Friedman, de Jong, & Wodak, 1993). However, their success in influencing government policy, local action, and public acceptance clearly demonstrates the importance of grassroots, user-driver activism in harm reduction.

The Mersey (Liverpool) Harm Reduction Model

From the early- to mid-1980s, there was an influx of inexpensive brown heroin and a corresponding increase in intravenous heroin use documented in Liverpool, United Kingdom (Ashton & Seymour, 2010). The rising numbers of affected individuals outgrew the primarily abstinence-based and detoxification treatment services available in the region (Seymour & Eaton, 1997), and the link between HIV/AIDS and injection drug use had become apparent. After having met with HIV/AIDS activists and educators from the United States, key figures at the Mersey Regional Health Authority (MRHA) became increasingly interested in harm reduction techniques to address rising intravenous drug use and the impending HIV/AIDS crisis (Ashton & Seymour, 2010; O'Hare, 2007). Specifically, the aim was to lessen the impact of intravenous drug use on the health of affected individuals and the larger community (Seymour & Eaton, 1997).

The Mersey model advanced from a top-down public health imperative, yet sought to involve injecting drug users (IDUs) in the community in designing their own care. This model had three primary objectives: to facilitate contact with the "hard-to-reach" members of the IDU population via outreach efforts (Ashton & Seymour, 2010, p. 95); to maintain contact with IDUs; and to help IDUs make changes in their behavior to reduce harm (Seymour & Eaton, 1997). In 1985, MRHA set up the Mersey Drug Training and Information Center (MDTIC) as a centrally located drop-in office with convenient, accessible hours of operation. The staff used a non-judgmental approach in providing needle and syringe exchange and information on safer drug use and health care tips (O'Hare, 2007). Maintenance prescriptions were also available for methadone and, in difficult-to-treat cases, heroin, an approach that harkened back to the early harm reduction techniques indoctrinated in the Rolleston Report. This approach allows overseeing physicians to regulate the quality, amount, and dispensation of opiates, which thereby reduces the risks associated with street drugs (e.g., adulterants, unknown potency, involvement in the illegal drug trade). This unique, comprehensive approach aimed to foster a sense of community

among IDUs and thereby focused on reducing harm on both community and individual levels to have a more extensive population-based effect.

This model has since become known as the Mersey (or Liverpool) Harm Reduction Model (O'Hare, 2007). Although there are no controlled outcome trials evaluating this model, a recent study indicated that the worldwide rates of HIV infections among IDUs are rising dramatically, with some Southeast Asian and Eastern European countries showing rates of infection between 40 and 70% among the IDU population (Degenhardt et al., 2010). In contrast, a recent study estimated that only 2% of IDUs in the United Kingdom are HIV-positive (Mathers et al., 2010). The authors of this work cited the swift and early introduction of comprehensive harm reduction strategies in the United Kingdom as a key contributing factor to this relatively low rate of infection.

In addition to the development of the Mersey Model, the MHRA's efforts also led to the founding in 1987 of the influential *Mersey Drugs Journal*, now known as the *International Journal of Drug Policy* (O'Hare, 2007). In 1990, MHRA also sponsored the First International Conference on the Reduction of Drug-Related Harm in Liverpool (O'Hare, 2007). It was here that drug users, scientists, public health professionals, and government officials met to share perspectives on global health issues. This conference also led to the founding of Harm Reduction International (formerly known as the International Harm Reduction Association) in 1996 and has since provided a forum for advances in international harm reduction efforts. For example, the 1998 conference held in São Paulo, Brazil, provided impetus for the State of São Paulo to legalize needle and syringe exchange programs. In 2002, WHO representatives attended and confirmed their support of the conference and the comprehensive harm reduction strategies introduced within the Mersey Model (O'Hare, 2007).

HIV/AIDS in the United States: Tipping the Balance toward Harm Reduction

Since the early days of drug policy, the United States has taken a zero-tolerance stand on substance use ranging from the Harrison Narcotics Act of 1914 to the Prohibition Act of 1919 to the "Just Say No" campaign of the 1980s. Fortunately, there have been some pockets of harm reduction in the long history of our war on drugs. As noted previously in this chapter, these pockets have launched what may be a harm reduction détente and have spurred on more unified grassroots and public health efforts to this end. In this section, we review parallel historical movements in response to the HIV/AIDS crisis that could be viewed as the tipping point toward harm reduction approaches in the United States.

Although recent evidence has indicated that HIV may have first transferred to humans as far back as 18th century (Worobey et al., 2008), the

first known cases of AIDS were identified in gay men in New York City in 1981 (Hymes et al., 1981). Mainstream community and government agencies were initially slow to respond to the AIDS epidemic, perhaps due to the marginalization of the gay community at the time (Peterson, Dimeff, Tapert, Stern, & Gorman, 1998). However, grassroots advocacy groups, such as the Gay Men's Health Crisis in New York City and the STOP AIDS program in San Francisco, were started by individuals from affected communities, who mobilized resources to provide information and peer-based education on avoiding known HIV risk behaviors, as well as to provide services to those who had acquired HIV/AIDS (Peterson et al., 1998).

Later in 1981, the first cases of AIDS-related illness in IDUs were detected in New York City (Masur et al., 1981). As news of the Dutch needle and syringe exchange efforts spread to the United States, activists either working alone (i.e., primarily ex- and current IDUs; Friedman et al., 2007; Lane & Needle Exchange Program Evaluation Project, 1993) or in nascent organizations (e.g., North American Syringe Exchange Network in Tacoma, WA, in 1988) began distributing and exchanging clean needles and syringes to members of the IDU community. This harm reduction approach was inspired by top-down public health research on HIV/AIDS but primarily was being applied via bottom-up grassroots networks.

Taken together, these grassroots advocacy efforts combating HIV/AIDS in the United States, both in the gay community and among IDUs, were ultimately successful in empowering affected individuals to take control of their health care, pressuring the scientific and medical communities to expedite HIV/AIDS treatment development, increasing health care equity, and providing services to those marginalized by traditional health care programs (Keefe, Lane, & Swarts, 2006). These grassroots activists often applied harm reduction approaches at great personal and organizational risk. For example, peer education materials on high-risk sex behavior was often subject to U.S. government-backed censure (Peterson et al., 1998), and the distribution of needles and syringes was illegal in many affected communities at the height of the HIV/AIDS crisis (Lane & Needle Exchange Program Evaluation Project, 1993).

Ahead of the Curve in North America: Canadian Efforts toward Harm Reduction

In contrast to the proliferation of grassroots and underground harm reduction programs in the United States, Canada's publicly funded programs have brought harm reduction into the mainstream, which has made Canada the leader in the wider adoption of harm reduction strategies in North America. The first government-backed needle and syringe exchange program in North America began in Vancouver in 1989, and by 2007 similar programs were supported by Health Ministries in every province. Likewise,

opioid substitution therapies, including both methadone and buprenorphine, are available in all Canadian provinces, and programs distributing safer crack kits operate in a number of cities including Toronto, Winnipeg, Montreal, Ottawa, and Vancouver (Toronto Department of Public Health, 2006). Canada was also one of seven countries worldwide that conducted controlled trials of assisted heroin treatment (Oviedo-Joekes et al., 2009). Findings indicated favorable results compared to oral methadone for individuals for whom traditional treatment had failed.

Perhaps the most recent Canadian developments in harm reduction began in 2009, when researchers undertook the largest randomized controlled trial in Canadian history, comparing the effectiveness of low-barrier, nonabstinence-based Housing First and traditional continuum-of-care housing models in five cities: Vancouver, Winnipeg, Toronto, Montreal, and Moncton. At a cost of over \$110 million CDN, the results of this trial are expected to have a direct bearing on policies associated with harm reduction and housing in Canada.

Despite Canada's adoption of publicly funded harm reduction interventions, government support of these programs is still subject to the dominant political ideology of the day. For example, Vancouver's "Insite," the only legal, supervised injection facility in North America, is currently facing opposition from the Canadian Conservative Federal Government. Insite opened in 2003 and receives more than 700 visits per day on average (Vancouver Coastal Health, 2010). Research has shown Insite's positive, community-wide effects on health and public safety (Expert Advisory Committee to the Federal Health Minister, 2008), and it has drawn support from several Canadian cities (Expert Advisory Committee to the Federal Health Minister, 2008; Harnett, 2007) and the province of British Columbia. As we prepare this chapter to go to press, however, the fate of this organization is now in the hands of the Supreme Court of Canada, which will determine whether the Canadian government has the authority to close this program and thereby constrain the growth of similar facilities throughout the country.

Reflections on the Historical Highlights of Harm Reduction

In this section, we have touched on key historical highlights that have shaped the development of harm reduction and have represented the individual and combined effects of both bottom-up grassroots activism and top-down public health approaches. The most effective approaches that have created lasting effects have involved both of these perspectives. In fact, recent publications from international nongovernmental organizations (NGOs), including UNAIDS (2010) and the World Health Organization (2009), have recommended the worldwide expansion of harm reduction packages that capitalize on both the strengths of community-based and

large-scale public health efforts. Furthermore, now that harm reduction has spread far beyond its Western European and North American roots to countries in Asia, Africa, South America, and Eastern Europe, it will need to be further tailored to meet the specific needs of these diverse cultures and communities. Thus, in the 21st century, harm reduction efforts will need to bolster support on multiple levels—ranging from affected individuals to community-based grassroots organizations to worldwide public health agencies—to generate effective solutions with global reach.

OUTLINING THE PRINCIPLES OF HARM REDUCTION

Some of the controversy surrounding harm reduction stems from the fact that it has, in part, been articulated and championed by affected individuals and their communities (e.g., *Junkiebond* in the Netherlands, Gay Men's Health Crisis Network in New York) and other grassroots activists (e.g., Harm Reduction Coalition). Thus, harm reduction approaches are often developed and applied outside of the exclusive control of the more powerful institutions that typically shape mainstream beliefs about high-risk behaviors (Denning, 2000; Marlatt, 1996; Moskalewicz et al., 2007), including religious organizations, biomedical/academic institutions, and legislative bodies. There has been, however, a move toward increasing integration of the grassroots advocacy (Berger & Luckmann, 1966; Burr, 2003) and global public health arms of the harm reduction movement. While this positive step toward integration with mainstream efforts has shaped the development of the harm reduction field, its key tenets have remained stable since the first edition of this book and have begun to reshape mainstream conceptualizations of substance use and other high-risk behaviors.

“High-Risk Behaviors” Are a Social Construction

Within the harm reduction framework, it is acknowledged that our belief systems surrounding high-risk behaviors are products of a given time and culture and their associated values, norms, and beliefs (Denning, 2000). The ways in which these behaviors are positively or negatively viewed depend on the specific behavior as well as with whom and under what circumstances it is performed, and these norms have fluctuated greatly over time and culture (Dean, 1996; Edwards, 2000; Gately, 2008). Thus, how we think about high-risk behaviors, what we choose to call high-risk behaviors, and, obviously, how we refer to these behaviors (e.g., as “high risk”) is, like many socially constructed belief systems (Berger & Luckmann, 1966; Burr, 2003), neither absolute nor stable (Goode & Ben-Yehuda, 2009). Viewing beliefs about high-risk behaviors as fluid and dynamic social constructs is helpful in setting aside judgment and more fully aligning with affected individuals (Denning, 2000), which can be key to “meeting clients where they’re at”

(Marlatt, 1996) and developing truly “user”-driven policy, treatment, prevention, advocacy, and education.

High-Risk Behaviors Are Here to Stay

Although the social constructions defining them change with time, it is generally agreed that these behaviors, in their various forms, are consistent aspects of the human condition (Dean, 1996; Edwards, 2000; Gately, 2008). Furthermore, historical evidence would indicate that relatively recent attempts to eradicate high-risk behaviors, including the U.S. alcohol prohibition of the 1920s (Levine, 2003), abstinence-only sex education (Bennett & Assefi, 2005), and the widespread D.A.R.E. “just say no” substance-use campaign (Lynam et al., 1999; Pan & Bai, 2009), to name a few, have not only failed but have been associated with higher levels of crime, large public expenditures, and, sometimes, increases in the targeted high-risk behaviors. Harm reduction adherents therefore posit that time and effort spent in the eradication of intractable human behaviors would be better spent working with affected individuals to find ways to reduce the associated negative consequences (Harm Reduction Coalition, 2010).

High-Risk Behaviors May Be Both Adaptive and Maladaptive

Harm reduction adherents acknowledge not only the fact that high-risk behaviors occur, but that they occur for a reason (Denning, 2000). Behavioral economics and self-control theories provide accepted scientific explanations for high-risk behaviors, such as substance use (Glautier, 2004), and suggest that smaller effects delivered sooner (e.g., sex without a condom, a hit off a crack pipe) may be more salient and immediately rewarding than larger effects delivered later (e.g., avoidance of HIV, better lung functioning). Research has shown that even the expectation of reward (i.e., positive expectancy) is enough to predict engagement in high-risk behaviors (Patel & Fromme, 2009), and may also have crossover effects by precipitating engagement in other, related high-risk behaviors (e.g., engaging in unprotected sex while consuming substances) (Hendershot, Stoner, George, & Norris, 2007). Furthermore, our recent research with chronically homeless individuals with severe alcohol use disorders indicated that continued alcohol use may even be considered adaptive in some cases. For example, in this population, drinking together can build community on the streets, and alcohol use can stave off life-threatening alcohol withdrawal as well as reduce the experience of psychiatric symptoms (Collins et al., in press). Harm reduction adherents, therefore, take care to acknowledge and openly explore individuals’ perceptions of *both* the pros and the cons of their behaviors. This recognition is not only evidence based (Collins, Carey, & Otto, 2009; Collins, Eck, Torchalla, Schröter, & Batra, 2010); it can build insights into motivations for engaging in the high-risk behavior as well as

a more compassionate base from which tailored and effective interventions may be launched. It is, however, also important to note that harm reduction does not undervalue or ignore the real harms associated with high-risk behaviors (Denning, 2000; Harm Reduction Coalition, 2010). Instead, harm reduction encourages open, nonjudgmental assessment of both pros and cons to promote a thorough understanding of high-risk behaviors, their interconnectedness with other lifestyle factors, and their meaning and contexts (Denning, 2000b).

Harm Reduction Does Not Seek to Pathologize High-Risk Behaviors

Harm reduction principles reflect a differentiated view of potential harm associated with substance use and other high-risk behaviors. Harm reduction adherents accept that prolonged and chronic substance use may precipitate but does not automatically confer or signify the presence of a “persistent addiction” (Peele, 1991). Furthermore, as has been shown in the natural recovery and spontaneous remission literature, even heavier substance users can show intermittent or sustained periods of non-problem use often without formal treatment (Hughes, Keely, & Naud, 2004; Schutte, Moos, & Brennan, 2006; Sobell, Ellingstad, & Sobell, 2000). Because pathologizing high-risk behaviors does not appear to improve outcomes, harm reduction principles would instead indicate more pragmatic and holistic prevention and resolution of problems resulting from high-risk behaviors such as substance use (Denning, 2000).

Harm and Harm Reduction Exist on a Spectrum

Harm reduction principles recognize that some ways of engaging in high-risk behaviors are less risky than others and that levels of risk may be considered on various spectrums (Harm Reduction Coalition, 2010). Within this model, harm reduction advocates seek to educate, support and empower individuals and communities to explore and understand various options for reducing harm. Harm reduction advocates recognize any change toward reduced harm and increased QoL as a “step in the right direction” (Marlatt & Tapert, 1993) and celebrate the “power of any positive change.”¹

Individual Behavior Is Embedded in the Larger Social Context

As discussed in previous sections, harm reduction approaches seek to understand individual-level factors associated with high-risk behaviors and

¹ From a T-shirt by the Chicago Recovery Alliance as quoted in the first edition of this book by Marlatt (1998a).

their associated harms (Denning, 2000). It is also acknowledged, however, that high-risk behaviors are influenced by multiple underlying, precipitating, and maintaining variables (Rhodes, 2009; Strathdee et al., 2010). Public health researchers are beginning to reinterpret traditional biomedical endpoints, such as publicly funded health care utilization, from an ecological systems perspective (Bronfenbrenner, 1979), instead of the traditional, exclusive focus on individual agency (Malone, 1995). In using this broader perspective, which takes into account the socioeconomic disparities that affect many high-systems users, we can, for example, reframe high-level public health care utilization as a sign of the overall deterioration of social and health care safety nets instead of individuals' "abuse of the system" (Malone, 1995, p. 472). Thus, although some applications, such as harm reduction psychotherapy, may focus on treatment of the individual, it is important to affect change on the social, economic, and political environment as well (Juergens et al., 2010).

Harm Reduction Is Fundamentally Pragmatic, Not Theory Driven

It is recognized that traditional ideological or theoretical explanations of the etiology of high-risk behaviors and associated interventions are not always generalizable and may impede development and application of effective, tailored harm reduction interventions. Thus, harm reduction adherents tend to deemphasize general theory and ideology and seek out acceptable, feasible, and effective solutions that are applicable to specific situations. A pragmatic, tailored approach to developing harm reduction solutions is a cornerstone of this framework (Harm Reduction Coalition, 2010).

Harm Reduction Is an Ethical Practice

Harm reduction has been referred to as "value neutral" because of its focus on a pragmatic versus ideological approach to reducing harm and improving QoL for the individual and society (Keane, 2003). Traditionally, harm reduction's pragmatic stance and conceptualization of problems stemming from high-risk behaviors as "technical versus moral" have been considered essential to provide a neutral counterpoint to an otherwise highly value-laden debate (Keane, 2003). More recently, however, there have been calls to further articulate an underlying framework in moral, human rights, and larger public health terms (Ezard, 2001; Fry, Khoshnood, Power, & Sharma, 2008; Fry, Treloar, & Maher, 2005; Hathaway, 2001). Recent developments in the ethical discourse as well as sweeping policy reforms have pushed arguments for community-based engagement, social justice, and human rights to the forefront as candidate moral frameworks. Paterson and Panessa's (2008) assertion of the ethical imperative for *com-*

munity-based engagement with affected individuals and communities is reflected in recent NGO guidelines (UNAIDS, 2010; World Health Organization, 2004), and shows the growing interest in community-based participatory research and action (Minkler & Wallerstein, 2008). The proposed *social justice framework* aims to identify harms to affected individuals that have been precipitated by the larger social context and seeks to use harm reduction strategies as a means of reducing the associated disparities (Pauly, 2008). The *human rights framework*, put forth by Hathaway and Tousaw (2008), echoes the grassroots movements of the *Junkiebond* and asserts that harm reduction is a human right that should primarily be in the control of the affected individual. The harm reduction policies recently put in place (Council of the European Union, 2004; UNAIDS, 2010; World Health Organization, 2009) as well as the new public health discourse on harm reduction (e.g. Juergens et al., 2010), appear to draw most heavily on the social justice framework. With so many timely developments in this area, it will be interesting to see how this work on ethics, values, and moral frameworks in the harm reduction context will progress into the future.

DIFFERENTIATING BETWEEN HARM REDUCTION AND ABSTINENCE-BASED APPROACHES

There has been much discussion about what differentiates harm reduction approaches from other approaches that may also use an empathetic, client-centered style and may also aim to reduce harm and improve QoL (Ball, 2007; Erickson, 1995; Leshner, 2008; Marlatt, 1996; Single, 1995). We posit that the focus on *harm* reduction versus *use* reduction (or reduction in the engagement of other high-risk behaviors) provides the clearest point of differentiation. This shift of intervention priorities requires a focus on whatever compassionate and pragmatic means can result in a reduction in risk, regardless of whether that involves reduction in the actual behavior. That said, behavior reduction and abstinence-based goals are not necessarily incompatible with harm reduction (Riley & O'Hare, 2000); they may be included in personalized goal setting or in a tailored menu of options if they are deemed to be acceptable to the individual as viable and effective means of reducing their harm. Abstinence may be integrated into tailored intervention plans if it is generally acceptable to the individual (e.g., long-term abstinence as a goal) and/or is acceptable in certain situations (e.g., abstinence while working or driving). Ultimately, harm reduction supports any movement along the risk hierarchy that minimizes harm and improves QoL (Marlatt & Tapert, 1993), while providing additional pathways to positive change for individuals who are not ready, willing, and/or able to attain and maintain total abstinence from high-risk behaviors.

ADVANTAGES OF USING A HARM REDUCTION APPROACH

As we explored in our recounting of its development, harm reduction has been most effective when it is integrated into communities as a grassroots, compassionate approach that utilizes pragmatic strategies to engage and empower affected individuals to reduce harm (World Health Organization, 2004). Although harm reduction approaches were not necessarily developed as an abreaction to abstinence-based approaches, much of the heated discussion for or against harm reduction has echoed the strong societal polemics regarding the high-risk behaviors themselves: whether they are moral and whether they should be tolerated (Denning, 2000). Unfortunately, the cultivation of such black-and-white arguments often forges artificial and intractable divisions between two sides instead of open discussion and integration of relevant concerns and potential solutions (Foucault, 1997). It may, therefore, be most helpful to set aside the harm reduction–abstinence-only polemic by exploring harm reduction’s compatibility with abstinence-based goals as well as its ability to provide additional tangible benefits to individuals, communities, and society at large.

Harm Reduction Does Not Threaten Abstinence-Based Goals

Harm reduction neither precludes nor discourages abstinence-based goals, as long as they are generated by and acceptable to the affected individual and do not impose additional harm (Denning, 2000; Riley & O’Hare, 2000). Far from threatening an individual’s interest in abstinence, harm reduction techniques can be used to support abstinence as it would any positive step toward harm reduction and QoL improvement. On the other hand, harm reduction neither prescribes abstinence nor uses coercive tactics to elicit it, because such tactics may inadvertently induce further harm (Denning, 2000).

We can illustrate this latter point using the homelessness and supportive housing literature. Substance use abstinence and treatment requirements are commonplace in traditional continuum-of-care supportive housing because it has long been asserted that non-abstinence-based housing would “enable” residents’ substance use (Denning, 2000). Such requirements, however, have received increasing attention and concern as a potential human rights violation because they subject people who are unwilling or unable to maintain substance use abstinence to continued homelessness (Allen, 2003; Robbins, Callahan, & Monahan, 2009). In contrast to the “enabling” hypothesis, recent findings suggest that Housing First projects, which provide low-barrier, non-abstinence-based, supportive housing, offer substantial harm reduction and QoL-enhancing benefits to the individual, local community, and larger society. On the individual level, residents have stable, permanent housing, report greater satisfaction with

living in housing versus on the street, and despite the non-abstinence-based programming, they evince decreased alcohol use and related harm (Collins, Clifasefi, et al., in press; Collins, Malone, et al., in press). On the community level, residents report a strong sense of belonging and mutual support in their housing (Collins, Clifasefi, et al., in press). On the societal level, there have been significant reductions in the use of emergent and other publicly funded health care and associated costs (Larimer et al., 2009). Thus, whereas abstinence-based goals keep some individuals who cannot or will not stop using substances from obtaining housing, harm reduction approaches may promote use reduction and even abstinence while providing other empirically supported net benefits to the individual, community, and society (MacCoun, 1998). Far from “enabling” high-risk behaviors, these harm reduction approaches provide an alternative to otherwise “disabling” abstinence-only approaches.

Harm Reduction Supports Human Rights

Since the early grassroots beginnings (e.g., *Junkiebond*, Gay Men’s Health Crisis), harm reduction activists have fought for the basic human rights of affected individuals who have been marginalized and/or disenfranchised because of their high-risk behaviors and associated consequences. Currently, the harm reduction movement is expanding beyond its grassroots beginnings and has more fully engaged with the biomedical sciences, public health, and human rights fields resulting in an expansion of its reach and effectiveness (Beyrer et al., 2010; Moskalewicz et al., 2007). As harm reduction principles become more deeply engrained in policy, prevention, treatment, education, and advocacy on a large scale, equal rights to health care and housing may become even more attainable. Effectively integrating the efforts of grassroots activist approaches with global public health initiatives is key to ensuring continued progress toward the defense of human rights for affected individuals (Friedman et al., 2007; Stimson, 1998; UNAIDS, 2010). Fortunately, these efforts are considered to be increasingly compatible; as Breyer and colleagues (2010) noted, “The right things to do to limit spread of disease are also the right things to do to protect human rights” (p. 552).

Harm Reduction Allows for Flexible, Tailored, and Culturally Competent Approaches

In line with human rights advocacy is the philosophy that affected individuals and their communities have local knowledge that could inform culturally sensitive alliances between public health and grassroots efforts toward harm reduction (UNAIDS, 2010; World Health Organization,

2004). Because harm reduction may be easily tailored to the specific needs of communities, it may be more flexible across cultures, target behaviors, area, and level of impact than other preformed, theory-based approaches. Harm reduction goals may be tailored on an individual level in the case of one-on-one interventions, such as harm reduction psychotherapy, counseling, brief interventions, or peer education. In the case of larger community- or population-based interventions, it may be informed by local knowledge and culturally specific information gathered through community-based participatory research and action networks (Minkler & Wallerstein, 2008; UNAIDS, 2010). This makes harm reduction more flexible and amenable to tailoring to the specific needs of affected individuals as well as more sensitive to the strengths and challenges of the communities in which they live. In these ways, harm reduction approaches are in line with current standards of culturally competent intervention (Sue, Zane, Nagayama Hall, & Berger, 2009) and with international calls for more comprehensive, community-based approaches to health care (Institute of Medicine, 2002; UNAIDS, 2010; World Health Organization, 2004).

Harm Reduction Can Be Empowering

As the example in the Preface illustrated, the focus on abstinence as a top-down, one-size-fits-all goal can be disempowering to affected individuals. Research studies examining therapist–client interactions in one-on-one psychotherapy interventions have corroborated this anecdotal illustration and have shown that people are more receptive to interventions that are affirming and empowering versus confrontational and overtly directive (Gaume, Gmel, Faouzi, & Daepfen, 2008; Moyers et al., 2007; Vader, Walters, Prabhu, Houck, & Field, 2010). Furthermore, with appropriate training, implementation of harm reduction approaches is perceived as less stressful and more effective by counselors, case managers, and treatment providers who work with affected individuals on the front lines (Collins, Clifasefi, et al., in press; Henwood, Stanhope, & Padgett, 2011). Finally, research findings to date indicate that prevention, intervention, policy, education, and advocacy that is more client driven may be more acceptable, feasible, and empowering than approaches that involve predetermined goals based on researchers, and treatment providers' own values, norms, and interests (Israel et al., 2010; Morisky et al., 2010).

Harm Reduction Approaches Can Be Efficacious

When the previous edition of this book was released, far less information was available about the efficacy and effectiveness of different harm reduction interventions, primarily because these approaches had long been

relegated to the fringes of policy, prevention, treatment, and education. Over the past decade, however, research on harm reduction approaches has flourished and has produced encouraging findings as to their effectiveness. By not solely focusing on reduction of the behaviors themselves, harm reduction—ranging from societal-level drug policy reform (e.g., Greenwald, 2009) to community-level provision of non-abstinence-based housing for chronically homeless individuals (Larimer et al., 2009) to individual-level harm reduction psychotherapy (Hope et al., 2001; Mattick, Breen, Kimber, & Davoli, 2009; van den Berg et al., 2007)—has been shown to decrease not only harm for the affected individuals and their communities, but in some cases, the high-risk behaviors themselves. Benefits of harm reduction approaches have also been shown in cost savings and in decreases in the use of publicly funded services related to the individuals' high-risk behaviors (e.g., Anderson, Chisholm, & Fuhr, 2009; Chisholm, Doran, Shibuya, & Rehm, 2006; Larimer et al., 2009). Thus, harm reduction is positioned to have positive effects across levels of outcomes (e.g., individual, community-wide, population-based levels) and types of outcomes (e.g., behavioral, biomedical, economic) in diverse cultures. In the chapters that follow, our colleagues expound upon relevant and timely efficacy and effectiveness findings for harm reduction approaches.

CONCLUSION

Since the first edition of this book, we have seen harm reduction join the mainstream discourse on policy, prevention, treatment, advocacy, and education addressing high-risk behaviors. From its grassroots and activist beginnings, harm reduction has expanded to become an even more inclusive and globally applied platform for a broad range of approaches that are focused toward reducing harm and increasing QoL among individuals engaging in high-risk behaviors and their communities. Gauging from its historical development and current applications, which we briefly reviewed in this chapter, harm reduction goals appear to be best served in a symbiotic relationship that pairs the community-based strengths of grassroots activism and the global reach of public health approaches.

This integration requires placing traditional ideas about high-risk behaviors and approaches aside and more fully aligning with the needs of affected individuals and their communities. In this chapter, we therefore reviewed some principles that facilitate harm reduction goals. Specifically, harm reduction requires recognizing the complexities of high-risk behaviors instead of pathologizing them. In doing so, the harm reduction practitioner seeks to understand both the rewarding qualities and the associated harms

of high-risk behaviors from the perspectives of the affected individual and within the larger social context. It also involves conceptualizing harm on a continuous spectrum and supporting any movement in the direction of its reduction. This practical, incremental, and “user”-defined approach to reducing harm differs from traditional top-down, theory-driven, abstinence-based approaches that stipulate discontinuation of the target behavior as the ultimate and preferred objective.

In this chapter, we also discussed why shifting to a harm reduction approach can provide various tangible benefits to individuals, communities, and society at large. First, although this approach focuses on reducing harm versus reducing the behavior, it does not preclude abstinence as a “user”-defined goal and is thus compatible with many existing programs. Second, harm reduction promotes equal human rights and seeks to reduce social and other health care disparities in the larger social context. Harm reduction seeks to empower individuals to educate and advocate for their own needs and interests. Given the flexibility of its approaches, harm reduction applications can also be readily tailored to fit the needs of individuals and their communities. Finally, empirical research has indicated that harm reduction approaches—ranging from individual harm reduction interventions to non-abstinence-based supportive housing to large-scale policy reform—can be efficacious in reducing harm, promoting QoL, and even decreasing high-risk behaviors themselves.

With this second edition of *Harm Reduction: Pragmatic Strategies for Managing High-Risk Behaviors*, we aim to help readers navigate the burgeoning and diverse harm reduction field. Although harm reduction continues to be the subject of heated polemics and political agendas, we hope that readers will embrace its diversity and explore its capacity to bridge fields and connect people. Its thoughtful application will more effectively link top-down global public health efforts with bottom-up grassroots advocacy to extract from these diverse approaches their maximum effectiveness and reach. Despite the ongoing controversy and many changes that have ensued since the first edition of this book, the take-home message is fundamentally the same: Let people come as they are, meet them where they’re at, and recognize the power of any positive change.

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CHAPTER 2



Harm Reduction Psychotherapy

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Harm reduction is an exciting new development in the addiction treatment field that we believe has great potential to increase the effectiveness of efforts to heal substance users across the spectrum of severity. We are both clinical psychologists who chose to specialize in the treatment of substance users while completing our clinical training. We spent the first part of our careers working in a variety of inpatient and outpatient substance abuse treatment settings that, while innovative in many ways, were, like the overwhelming majority of similar programs around this country, steeped in the prevailing “abstinence-only” ideology that dominates both the substance abuse and mental health treatments of patients struggling with these problems. We each experienced a mixture of gratitude for the opportunities to learn about and help treat this diverse and interesting group of people and a growing sense of frustration and dissatisfaction with the limitations of this treatment model. Over time, it became increasingly clear to us that the majority of patients were not being helped by the traditional approaches, and that many substance-using individuals did not seem to be interested in what our programs were offering. We believe that our experiences are not uncommon for workers in the field of substance use treatment, and, like many, we began to search for alternative ways of understanding substance use problems and for treatment approaches that offered more hope. Each of

us, via different paths, ultimately discovered harm reduction as an alternative paradigm that we believe points the way toward many new treatment innovations that hold great promise for more effectively attracting, retaining, and fostering positive change in people with substance use problems.

One of us (Tatarsky) had started to see actively using patients in his private practice in the late 1980s when this was almost universally considered to be ineffective or, worse, a form of enabling people to use and get worse. Despite this, many of his patients made good use of the therapy, leading to positive and meaningful changes in their substance use and a wide range of other related and unrelated issues. Not yet aware of harm reduction, Tatarsky called the late Alan Marlatt, a close colleague, and told him of his mystifying clinical success. Alan responded, “You are doing harm reduction!” This showed Tatarsky the path to a new paradigm that provides not only an explanation for the limited success of the traditional model, but also a rationale for a very different way of understanding and helping substance-using patients (Tatarsky, 1998).

Kellogg, in turn, has always advocated for the use of psychological approaches in the management of addictive behaviors. This first took the form of relapse prevention (Marlatt & Gordon, 1985) and would later extend to work with contingency management (Kellogg et al., 2005) and gradualism (Kellogg, 2003; Kellogg & Kreek, 2005). He also had a deep belief that individual psychotherapy was an absolute necessity for the true healing of patients with addictions and that group methods, although helpful, were no substitute. This was particularly brought home to him during a 3-year project that specifically focused on treating posttraumatic stress disorder among patients with drug addictions (Kellogg & Triffleman, 1998; Triffleman, Carroll, & Kellogg, 1999). He was struck not only by the enormous number of patients with histories of sexual, physical, and emotional abuse, but also by the fact that so many of them had never discussed this in any of their drug treatment experiences. They needed, but had not been given, the safety, structure, and therapeutic space provided by individual psychotherapy and the psychotherapy traditions.

This chapter provides an overview of the harm reduction model and how we and a growing group of colleagues around the country have been applying the harm reduction paradigm to substance use treatment and psychotherapy—applications that we believe are essential ingredients in the effective treatment of this population.

ORIGINS AND HISTORY OF HARM REDUCTION

The harm reduction model was developed in Europe in the 1970s as a public health alternative to the moral and criminal models of dealing with problematic substance use (Heather, Wodak, Nadelmann, & O’Hare,

1993). Harm reduction began as a response to the failure of traditional abstinence-focused treatment to address the explosion of serious drug and alcohol use in Amsterdam and Liverpool in the 1970s. The essence of this philosophy is the intention to help reduce the harmful consequences associated with substance use to both the individual and society without requiring abstinence as a goal or precondition of treatment (Marlatt & Tapert, 1993).

This early work focused on providing care for the medical and social needs of alcohol- and drug-using individuals without requiring them to discontinue their addictive behavior (Marlatt, 1998). In the late 1980s, with the advent of the HIV/AIDS epidemic, harm reduction gained a foothold throughout the world. Once it became apparent that substance users, particularly intravenous injecting heroin-using individuals, were not only likely to get the disease, but also were at risk for transmitting it to others, the stage was set to shift the focus from drug-use cessation to stopping the spread of HIV. Syringe exchange programs offering a wide array of harm reduction services, case management, and “low-threshold,” easily accessible methadone programs became front-line interventions in efforts to stop the spread of the disease. In short, as Drucker and colleagues (Drucker et al., 2004) have pointed out, AIDS took precedence over addiction.

HARM REDUCTION PSYCHOTHERAPY

Harm reduction psychotherapy (HRP) is a relatively recent development within the broader harm reduction movement. *Harm reduction psychotherapy* (Tatarsky, 1998) was named as such in a special issue of *In Session: Psychotherapy in Practice* devoted to harm reduction that was edited by Alan Marlatt and Judith Gordon. Tatarsky defined HRP as the category of “psychological interventions that seek to reduce the harm associated with active substance use without having abstinence as the initial goal.” This definition brings together many interventions that existed before, including alternatives to traditional abstinence-focused and 12-step-based treatments that constitute the prehistory of HRP (e.g., Hester, 1995; Miller & Marlatt, 1994; Peele & Brodsky, 1992; Sobell & Sobell, 1995).

HRP is an almost uniquely American development that reflects the encounter of psychotherapists who were working with psychodynamic and/or cognitive-behavioral approaches to addiction treatment with the insights of the harm reduction movement. The aim of this chapter is to present a distillation of HRP that draws on the work of such major innovators as Edith Springer (2003, 2004), Alan Marlatt (1998), William Miller (Miller & Rollnick, 1991), Debra Rothschild (1998), Andrew Tatarsky (1998, 2002, 2003), Patt Denning (2000), Jeannie Little (Denning, Little, & Glickman, 2004), and Frederick Rotgers (Rotgers, Little, & Denning, 2005). Many

of the original authors were working in mental health and substance abuse treatment centers (Denning, 2000; Marlatt, 1998; Tatarsky, 2002) and also experienced firsthand how the serious limitations of the traditional “abstinence-only” addiction treatment model resulted in large numbers of patients not being effectively helped.

HARM REDUCTION PHILOSOPHY

Tatarsky (2002) has outlined the following six core ideas that characterize the harm reduction model.

1. *Meeting the client as an individual.* This reflects a belief that patients come with different internal worlds, strengths, needs, vulnerabilities, biology, social backgrounds, and use histories; consequently, their patterns of use and the meanings that these hold will be unique for each user. For treatment to be successful, it must be tailored, as well as possible, to their specific needs.

2. *Starting where the patient is.* This means accepting them with whatever goals and level of motivation for change that they come with. This lowers the threshold to enter treatment (Marlatt, 1996) to whatever the patient is ready to begin working on. It puts the onus on the practitioner to develop treatments that target what the patient needs or wants rather than requiring the patient to meet the provider’s standards. For some this will mean developing a plan of action involving concrete steps and goals; for others this will mean a period of exploration of the positive and negative effects of the use; and for still a third group, this means starting with non-substance use issues. Engaging patients in treatment is the primary consideration, and wherever the patient is ready to begin the process of change becomes the starting point for the therapy. More recently Tatarsky (2007) has seen this principle as the basis for a clinical stance in which the therapist’s initial goal is to meet the patient with no predetermined agenda other than to be helpful. Thus, the form, direction, and pace of treatment emerge out of the clinical encounter rather than being foisted a priori on to the patient.

3. *Assuming the client has strengths that can be supported.* Patients are seen as more than their problems. They come with many strengths that can be mobilized in the service of positive growth and change: the part of the patient that wants to feel better comes with energy and motivation; the self-reflective part brings the capacity to learn something about him- or herself; and the risk-taking part of the patient may be willing to make him- or herself vulnerable and open to the therapeutic process. In many respects, to have survived in a world of active users and drug dealers speaks

to deeper inner resources, strengths, and skills. The goal here would be to mobilize them to help the patient move forward in a positive way.

4. *Accepting small incremental changes as steps in the right direction.* The annals of recovery provide famous and dramatic examples of healing and transformation (e.g., Bill W., a cofounder of Alcoholics Anonymous), and these kinds of dramatic personal changes continue today (White, 2006). However, for most people, change involves small steps that may take time to integrate before the person can move on.

5. *Not holding abstinence (or any other preconceived notions) as a necessary precondition of the therapy before really getting to know the individual.* Again, HRP emphasizes that the most realistic goals regarding substance use and related issues emerge out of the therapeutic process. This enables patients to begin where they are motivated to begin and have a therapy that is shaped to their needs.

6. *Developing a collaborative, empowering relationship with the client.* Traditional treatment has been organized in what can be viewed as a patriarchal framework in which the provider knows what is best for the “addict” who, it is assumed, cannot trust him- or herself and must accept the provider’s greater wisdom and terms. The saying, “Take the cotton out of your ears and stick it in your mouth” captures some of this perspective.

In contrast, because harm reduction emerged as an alternative grassroots movement that was often spearheaded by active or former drug users, there is a tradition of equality and collaboration between providers and consumers that coexists with a somewhat suspicious view of figures in authority (Kellogg, 2003). This emphasis on equality is also in line with a number of contemporary psychotherapeutic traditions, such as those found in cognitive-behavioral therapy (Waddington, 2002) and the emerging field of relational psychoanalysis (Aron, 1996), where it is accepted that the therapist does not have a greater grasp on truth than the patient and there is an emphasis on the co-construction of meaning by patient and therapist. These two traditions contribute to HRP’s emphasis on a teamwork approach to clarifying issues, choosing goals, developing strategies, and working toward positive change (Tatarsky, 2002).

7. *The importance of destigmatizing substance users.* Some of the difficulties encountered in the therapeutic process are due to negative assumptions about substance users that contribute to stigmatizing, devaluing, coercive, and punitive treatment philosophies and strategies. Internalized stigma in clinicians can contribute to negative countertransference reactions that prevent clinicians from seeing patients accurately. In patients, internalized stigma can manifest in self-hate and negative expectations about the possibility of changing. Thus, it is important to be vigilant to manifestations of stigma as they arise in both.

UNDERSTANDING DRUG USE

From an HRP perspective, people use substances for a wide variety of psychological, social, and biological reasons that must be recognized and respected (Rotgers et al., 2005; Tatarsky, 2002). Tatarsky has emphasized that substances solve many problems, at least temporarily, and in this regard may be seen as multipurpose tools. They can also carry multiple meanings simultaneously for the individual who uses them, and for treatment to be effective, it may be important to delineate what these are.

The Biopsychosocial “Process” Model

Denning and Tatarsky both hold a biopsychosocial “process” model of problem substance use that is an alternative to the “disease model” of addiction. This perspective sees problematic use as reflecting a complex interaction, unique to each user, between biopsychosocial vulnerabilities and biopsychosocial consequences of use that explain why people may escalate the intensity and frequency of use after a period of experimentation. Using this perspective, vulnerabilities and consequences may need to be identified and resolved before problematic use can be addressed directly. One useful consequence of this is that by addressing any related issue, the matrix within which substances are used is changed, and one’s relationship to the substance and motivations for the substance change as well.

The Multiple Meanings Model

The biopsychosocial vulnerabilities and consequences motivating substance use contribute to a relationship between the user and the substance that imbues the substance with multiple personal and social meanings (Tatarsky, 2002). The meanings that are reflected, carried, or conveyed by substance use may be expressed in action rather than being felt or being symbolized in words that can be thought about or communicated to others. The “addictive” relationship to the substance, then, is one in which the urge to use both carries these meanings and disguises them from the user. Given this, the therapeutic project is to unwrap the multiple meanings so that alternative, more conscious ways of expressing and acting on them can be considered.

Psychological Factors

The psychological reasons include the view that substance use can be “adaptive,” a view that is embodied in Khantzian’s (1985) “self-medication hypothesis.” According to his initial conceptualization, people use different drugs to self-medicate painful affect states, for example, opiates for

aggression, stimulants for depression, and alcohol and sedatives for anxiety. Along these lines, substances may be used to quell the pain of anxiety or depression, help block intrusive traumatic memories, increase the ability of those with attention-deficit/hyperactivity disorder to focus, and reduce the symptoms of psychosis. Khantzian (Khantzian, Halliday, & McAuliffe, 1990) later expanded this concept to include using substances in an attempt to fortify four sectors of personal vulnerability: self-regulation problems with affect, self-esteem, interpersonal relationships, and self-care. From this perspective, the substance may protect against disorganizing affect states, prop up a deflated self-esteem, or manage intense social phobia. Wurmser (1978) has explored the role of the “inner critic” or the harsh, punitive superego in the use of substances. For many, alcohol or drugs serve as a kind of revolt against or escape from this experience of internal tyranny.

Tatarsky (2002) has described the problematic nature of drug use in the service of this rebellion. The inner critic is an aspect of the self that generates perfectionist expectations of oneself and others, anxiety about not performing satisfactorily, and tendencies to feel depressed and angry at oneself for failing to achieve these expectations. As a result, life can feel like a straitjacket. There may be both a strong need to please and be the “good” boy, girl, wife, or employee and, simultaneously, a wish to rebel, let loose, or get a break—wishes whose expression can be facilitated by drugs and alcohol. Fenichel (1945) wrote that “the superego is said to be ‘that part of the mind that is dissolved in alcohol’” (p. 379). Unfortunately for the user, these effects are temporary. Rebellious drug use is often followed by the return of the awakened critic, now energized with a retaliatory vengeance that leaves the individual filled with guilt and remorse. The well-known depression and self-loathing that often follows substance use can be understood in terms of the meaning that this use carries, rather than as only a manifestation of brain chemical depletion, which may be a contributing factor as well. This, in turn, may precipitate reparative commitments to be sober (to be “good” as a form of resubmission to the inner critic).

A more dangerous response may be continued intensified substance use as a self-punishment for the transgression. This may explain how “slips” often precipitate full-blown binges as responses to the guilty transgressive meaning that drug use carries. Unless the meaning of this form of substance use is articulated and addressed, there may be apparently endless cycling between episodes of abstinence (submission to the inner critic) and excessive use (as a rebellious attempt at liberation compounded by intensified self-defeating use as punishment). Other possible outcomes that might emerge from a clarification of this dynamic involve developing a new, more separate relationship to one’s inner critic that would allow for a reconsideration of one’s own values and goals. From this new vantage point, rather than being trapped in the submit–rebel cycle, one can consider what relationship to substances really serves one’s own interests, needs, and val-

ues. This entails a reworking of the inner critic from a more primitive, punitive form to a more gentle, flexible, mature form that is informed by the patient's self-reflection and experience with the therapist who, in turn, offers a more understanding, compassionate, and pragmatic way of regarding one's substance use. Inner restructuring that takes place in this process can be seen as a form of ego strengthening or as the further development of the healthy adult mode (Young, Klosko, & Weishaar, 2003)

Denning (2002) describes a case that illustrates this dynamic. Her patient, a middle-aged professional woman, was unable to achieve her initial goal of abstinence from alcohol. They came to understand that, for the patient, pursuing abstinence as a goal was a symbolic submission to her inner critic (the internalized representative of her demanding and judgmental mother). She was ultimately successful at achieving stable moderation of her drinking, as it represented both symbolic separation from her mother and inner critic and a self-chosen goal that was more in accordance with other important values and needs.

Another common motivation for problematic substance use is the wish to overcome a sense of inner deadness. Users may want to have a greater sensitivity to life, be able to experience states of happiness and pleasure that they are not able to achieve in their normal state of consciousness, and/or to access aspects of themselves that have been dissociated or blocked off. In earlier stages of the addiction journey, people may be using substances to increase their creativity (Knafo, 2008) or have archetypal or spiritual experiences.

For these users substances facilitate the temporary reintegration of the dissociated, split-off aspects of the self that find expression "under the influence" while also becoming a convenient scapegoat for maintaining the claim that this aspect of the self is not a part of the person. Substance use may be one way that some people can access their dissociated anger, sexuality, sadness, tenderness, need for contact, creativity, and assertiveness. Some, as in the story of Dr. Jekyll and Mr. Hyde (Stevenson, 1986), find that intoxication allows for the emergence of what appear as other "selves," such as the Rebel, the Loner, "the guys in the back seat," the Wild Man, and the Party Girl—using names given to them by our patients. The "addictive" relationship to the substance often allows expression of these aspects while supporting the claim that they are "not me," as Sullivan (1953) named the repository for the dissociated.

Moving to the interpersonal realm, the social motivations for drug use are twofold. The first, as Denning (2000) and Springer (2003, 2004) have argued, is that many people suffer from their position or role in society and from poverty, unemployment, minority group or sexual orientation, and other stigmatized or challenging circumstances. They may have, or believe they have, limited possibilities for changing their difficult circumstances. In this situation, drug use can become a method for coping with the pain

associated with these social realities and yield some sense of control at least over one's inner experience.

The second, and overlapping, path is that substance use can be a way to make social connections and to forge an identity. Anderson (1998) has made the case that for those who are having difficulty sustaining successful claims to mainstream identities, the drug culture provides a "rebel" or "outsider" identity that is often fairly easy to access. Kellogg (1993) has noted that this social view incorporates a more complex view of substances as providers of both reinforcement and meaning. For many individuals, abstinence not only means giving up a chemical, but also means giving up a world and an identity in that world.

A third motivating force, which is certainly interwoven with the other two, is the role of biology in reinforcing the use of substances, a point that Denning (2000) has emphasized. In the best of situations, people may differ genetically in their responsiveness to different substances. The scientific evidence is mounting that exposure to trauma—whether acute and dramatic or continuous—can lead to changes in brain chemistry and leave the individual in chronic states of discomfort and/or make them more vulnerable to the effects of stress. It is also likely that the effects of poverty and the social ills that were discussed earlier can have a separate or compounding effect on the brain. These kinds of brain alterations can set the stage for the ability of a substance to at least temporarily bring the brain into a more optimal state. This neurobiological model provides an organic basis for the "self-medication" hypothesis and the trauma-oriented observations of those working in the psychological realm.

The end result is a situation in which drug use along the entire spectrum of severity can be seen as a complex biopsychosocial phenomenon. Effective treatment conceptualizations and plans will need to be geared toward an understanding and targeting of the interplay of these forces.

Addictions as Relationships

A useful metaphor for integrating these ideas is to view people as being in relationships with the substances that they use. These relationships will fall along a continuum from healthy to unhealthy—just like relationships with people do. Denning (2000) had argued that the terms "abuse" and "dependence" are ways of envisioning specific types of relationships to drugs.

Tatarsky (2002) emphasized that drugs and drug use often carry relational meaning because people with substance use problems often have very difficult interpersonal histories. Their object relations or internal schemas based on these histories cause them pain and difficulty and, as a way of coping, they may try to turn away and avoid their internal worlds. The addictive relationship that develops is one in which the addictive object is invested with the "magical belief" that the substance can provide a sooth-

ing, caring, or healing that people cannot. Since it ultimately cannot do this, true healing will lie in relinquishing this wishful belief and confronting and working through their inner pain and interpersonal difficulties.

In this way a drug may take on relational meaning as a comforting and controllable stand-in for people who may be experienced as untrustworthy and unpredictable. It can reinforce the illusion of self-sufficiency, for example, “As long as I have my drug I don’t need anyone” (Tatarsky, 2002). Krystal (1977) has described another relational dynamic that may predispose people to view drugs in this way. He observed a pattern of patients having parents who insisted that the power to care for oneself and make proper life decisions, that is, to know what is right for oneself, resides in the parent, not the child. Krystal suggests that this early context may leave the individual with the belief that someone or something outside has the power to care and soothe; drugs can become convenient repositories for this fantasy. This dynamic provides an important rationale for the harm reduction principle of not assuming *a priori* knowledge of what is best or right for the patient—a stance that would reinforce this toxic belief. Instead, the clinician works to support the patient in discovering his or her own capacities to care for him- or herself and make better choices. This stance not only supports individuals in discovering or strengthening their own capacity for self-knowledge and self-care, but also gives patients permission to own them, permission that was withheld early on.

Similarly, Denning (2000) emphasizes that drug use may mirror early patterns of attachment, and that the drug may be the most important relationship in the patient’s life, perhaps recapitulating a pattern of pain and pleasure that they had experienced with a parent at an earlier time. Both agree that the more serious the addiction, the more likely it is that there may have been problematic interpersonal experiences with caregivers and others as the patients were growing up, and the more likely that these will have to be addressed in the therapy.

THE THERAPEUTIC PROCESS

The Therapeutic Alliance and Engagement

Drawing both on psychotherapy tradition and the treatment outcome literature (Meier, Donmall, McElduff, Barrowclough, & Heller, 2006), harm reduction therapists give the relationship between the therapist and the patient, or the therapeutic alliance, central importance in their efforts. Safran and Muran (2000) noted that 50 years of psychotherapy research consistently concluded that the therapeutic alliance was a major factor associated with positive treatment outcomes. They state that the alliance is based on an agreement between patient and therapist about therapeutic goals and strategies. Recent research has found a strong positive relationship

between the therapeutic alliance and reductions in substance use. Neglecting this factor may account for a significant part of the failure of traditional abstinence-only treatments to attract and retain problematic users. Making requirements and judgments about abstinence as the immediate goal at the start of treatment for patients who are not prepared or willing to stop does not foster a good connection and is thus seen as being anti-therapeutic and something to be avoided. In fact, there is empirical evidence that some users will not seek help because they are aware that most treatment requires abstinence and this is not their goal at the outset (Kosok, 2006).

The Therapeutic Relationship Heals

The therapeutic relationship anchors the patient in therapy; it sets the stage for other therapeutic tasks and offers the possibility of a new relational experience that may constitute a healing alternative to the early ones that contributed to the addictive vulnerability discussed above. For patients who have problematic primary relationship histories (e.g., traumatic loss, abuse, or lack of attunement), it is hoped that the therapy will provide them with a relational experience that is attuned and affirming. In this way, the therapeutic relationship may constitute the basis for developing a greater capacity to trust and depend on others and feel worthy of being loved. As it becomes internalized, it will allow patients to decrease their reliance on substances for a sense of well-being and, instead, increasingly turn toward people.

The Importance of the Clinician's Attitude

Making the harm reduction position explicit at the outset of therapy will help challenge patients' expectations of being treated coercively. One might tell the patient that the initial goal is to learn about the nature of one's drug use from a collaborative exploration. In addition, acknowledging that the patient may be ambivalent about the cessation of substance use because the drug use is likely to have some positive or adaptive value is a strategy for countering shame and fears about having something experienced as vital taken away.

Given the fragility and vulnerability of many of these patients, creating safety must be a primary consideration. Careful attention to signs of anxiety and discomfort should be responded to in a variety of ways, and sensitive questioning should be used to explore negative transferences immediately. Activity and structuring on the therapist's part will help reduce anxiety. Balancing attuned contact with respect for boundaries and privacy is a delicate art that is ideally negotiated with the patient. Questions that give the patient control and choice will reduce the possibility of the patient feeling violated. Confrontation should be gentle and empathic, or using a

Columbo-like style, “I just had a wild thought; I could be wrong, I imagined that what you might have felt was . . .”

Facilitating the Capacities for Change

HRP seeks to support the patient in his or her own process of change and growth (Tatarsky, 2002). The skills involved in the identification of harm, in setting goals for its reduction, in unwrapping the multiple meanings of substance use, and in working toward positive change are self-regulatory capacities that can be strengthened in the therapeutic process. Curiosity, self-reflective awareness, affect tolerance, and affect management are capacities or cognitive functions required for personal transformation.

Donnel Stern (2003) has suggested that a most important goal of psychotherapy is the development or strengthening of curiosity in the patient. Curiosity seems to activate self-reflection and the attempt to formulate meaning. Empathic questions support the patient’s capacity to reflect with curiosity. A careful empathic attention to body language and changes in voice quality, such as a hesitation in speech, can alert us to affective shifts in the patient’s experience. An empathic response from the therapist, like a sigh, can draw the patient’s attention to the shift. The therapist might ask, “Did something just come up for you?” or “It looks like you started to feel sad . . . Can you say anything about what you are aware of?” or “Where do you feel that in your body? Can you describe the sensation? Are there any words, images, or memories that come to your mind as you focus on that sensation?”

The capacity to self-reflect is involved with the formulation of meaning. Philip Bromberg (1998) has defined health as the capacity to reflect simultaneously on different aspects of self. By stepping away psychically from an aspect of experience, such as an impulse to use a drug, and reflecting on the event–thought–feeling sequences proceeding and surrounding the impulse, it becomes possible to explore the different meanings or functions that the impulse may serve to see what feels like the best fit for the patient’s experience.

Self-reflection is also involved in affect tolerance and management, two capacities that are often deficient in problem substance users (Khantzian et al., 1990). Difficulties tolerating and managing feelings can contribute to people being vulnerable to feeling flooded by intense emotions, a dysphoric state that may drive them to take desperate action to feel less overwhelmed. In this case, anything that narrows or dulls consciousness such as drugs, sex, rock and roll, TV, work, or surfing the Internet will fit the bill. Self-reflection can help to disrupt this process by enabling individuals to symbolize affect states by naming them. As feelings are identified, it becomes possible to explore alternative methods of managing and tolerating them. For example, using techniques such as: yoga and massage

to relax with them; sitting with and clarifying conflicting feelings; thinking through inner pain; soothing oneself with an inner dialogue that imagines possible resolutions of the disturbing situations; expressing disturbing emotions in words, in exercise, in art, in writing; or developing rituals that are alternatives to the rituals connected to substance use may also accomplish similar ends.

Our caring anxiety at risky behavior may, in the context of a good alliance, become internalized by the patient as healthy self-caring attention to danger. The direct teaching of such coping skills as assertiveness, relaxation, and substance refusal may serve the direct goal of skill transfer, while simultaneously, and through ongoing relational support, help the patient internalize a capacity to function more autonomously. Tacit and explicit encouragement by the therapist of the patient's autonomy and use of these skills may serve as an antidote to the patient's ties to early objects that may not have supported autonomous self-care (Krystal, 1977).

Assessment

Assessment is a therapeutic activity in itself as it is the process by which the patient's awareness of the complex relationship between substance use and other personal, interpersonal, and psychosocial issues is facilitated. The assessment is both an initial focus of therapy for treatment planning and establishing the therapeutic alliance around agreed-upon initial goals and an ongoing focus of therapy geared toward deepening the patient's self-awareness and insight about the nature of problematic substance use and its relation to the larger context of the person. Denning (2000) suggested that if the therapist modeled a stance of respectful inquiry, it could create a similar process of curiosity about the self within the patient. The goal will be the creation of what she calls an "investigative team."

Assessment should focus on the pattern of use in terms of amount, duration, frequency, and positive and negative impact on the patient's life as well as clarifying its meanings and functions in relation to other life issues. As negative consequences are identified it becomes possible to set harm reduction goals to address them. As positive meanings and functions are identified it becomes possible to consider alternative ways of expressing what is expressed by or fulfilled by substances in less potentially harmful ways.

It is generally useful to have the patient get a medical evaluation to assess the physical impact of substance use. This can yield important objective information to add to the determination of the harmfulness of substance use (see also Miller, Zweben, DiClemente, & Rychtarik, 1995).

The patient's reasons for coming to therapy and ambivalence about changing have special importance in harm reduction psychotherapy. Traditional abstinence-only approaches have tended to ask patients to put issues

other than substance use on the back burner when these might be the most pressing issues for the individual. Clarifying the patient's reasons for seeking help and focusing the therapy on them will meet the patient where the patient is, best serve the patient's needs, and enhance the patient's motivation. Abstinence-only approaches have also tended to brand patients who are unwilling to commit to abstinence as unmotivated and not ready for treatment, as they view a commitment to abstinence as the only valid basis for beginning treatment. That model does not sufficiently recognize that people may be unclear about what they want to do about their substance use and ambivalent about changing for a wide variety of legitimate reasons based on the biopsychosocial factors related to and meanings and functions of their use. To the extent that substances have adaptive value in people's lives, despite negative consequences, people will be ambivalent about changing their relationship to them. Thus, ambivalence must be accepted as an inevitable part of people's relationship to their substance use, a part that must be clarified and addressed in order to consider changing one's pattern of using.

Two interventions are commonly used here. Marlatt (Marlatt & Gordon, 1985) has emphasized the utility of using a *decisional balance*, a cognitive-behavioral technique in which the patient lists the positives and negatives of their current use pattern and the positives and negatives of making a change. *Motivational interviewing* is a reflective psychotherapeutic approach developed by Miller (2000). In this work, the therapist seeks to draw out and accentuate the inner conflict that the patient has about his or her drug use. As the conflicting forces within become clearer and the cognitive dissonance more pronounced, the patient may be willing to consider resolving the conflict by changing the pattern of consumption. This kind of motivational work can be enhanced by the use of "chairwork" dialogues in which the different parts of the person "speak" to each other (Kellogg, 2004; Tatarsky, 2003). Rothschild (1998) has emphasized that it is vital that the therapist speak to and support both sides of the patient's ambivalence equally so as not to form an alliance with one at the expense of the other. The goal is to support the patient in being able to acknowledge and stay connected to both sides of his ambivalence simultaneously so he might be able to sit with the conflict and consider new possible ways to resolve it. For example, recognizing that the immediate anxiety relief brought by heavy drinking is in conflict with the wish to stop being hung over and more anxious the next day may lead to a consideration of alternative ways to achieve anxiety relief (e.g., relaxation training or addressing the root causes of the anxiety).

Harm reductionists have generally embraced the stages-of-change model as framework that identifies different issues that contribute to ambivalence about change. The model was developed by Prochaska and DiClemente (Prochaska, DiClemente, & Norcross, 1992), and Springer (2003,

2004) and Denning (2002) have addressed it within the harm reduction context. It recognizes that much important work may need to be done to pave the way for behavioral change and it specifies specific stages and tasks that must be resolved to move into action.

In the *precontemplation* stage, the individual is not acknowledging that they have a problem with substances. The goal here is to develop a positive therapeutic alliance. The safety and support of the psychotherapeutic situation promotes the self-reflection and self-assessment that may lead patients to discover or identify problematic consequences of their use.

In the second phase, *contemplation*, the patient has identified some problematic aspect of substance use and is unsure what to do about it. Patients in this stage are likely to be ambivalent about their drug use.

The *preparation* stage follows. Once the patient has clarified a goal and decided to pursue it, it now becomes possible to prepare to implement the change. Now the patient is going from the abstract to the concrete. Long-term goals are selected, short-term strategies and objectives are devised to help reach those goals, barriers are acknowledged, plans to overcome them are made, and systems of support that could help in the process are identified.

The *action* stage has been the primary focus of mainstream treatment programs—although there is a growing appreciation of the other phases, especially as motivational interviewing grows in popularity. In short, the patient implements the planned action—be it using clean needles more frequently, changing the method of using their favored substances, eliminating specific drugs, or joining a methadone program. The *maintenance* stage follows. As awareness has grown of the high rate of relapse following treatment, increasing attention has been paid to the importance of maintaining the gains that the individual has achieved. Marlatt's classic work on this issue, *Relapse Prevention*, has outlined an approach for helping patients in this phase (Marlatt & Donovan, 2005; Marlatt & Gordon, 1985).

Psychotherapeutic Goals

Where substance use has become excessive, abusive, self-defeating, compulsive, addictive, or is in some way significantly threatening or compromising other important needs and values, a harm reduction approach would initially aim to support the user in modifying his or her substance use to reduce the harmful impact. These efforts could include learning safer drug-using practices, utilization of clean syringes, taking drugs with others, being knowledgeable about overdose risk and prevention, switching to less dangerous substances, having clear ideas about dose limits, as well as reducing or stopping drug use.

Harm reduction target goals represent the part of the person that wants to change, and these inevitably come into conflict with the parts

of the person that are attached to the old ways of using drugs. The process of setting harm reduction goals brings this conflict more into the patient's awareness. The exploratory focus of HRP supports the patient in becoming more aware of those aspects of self that are embodied in the desire to use as before. As these are identified, it becomes possible to consider alternative solutions as modes of satisfying or expressing them (Bigg, 2008).

Shared Goals

A collaborative stance that aims to have patient and clinician working toward shared goals is likely to strengthen the alliance. Thus, the focus of therapy is on the patient's experience of the problem and the identification of goals that "feel right." Tatarsky (2002) called this the "right fit" between the patient and the treatment. This flexibility enables active users to come for help for issues both related and unrelated to substance use. Unrelated topics could include problems with anxiety and depression, life direction difficulties, and a past history of abuse and trauma, while substance-related issues, in turn, could include weak motivation to change, unclear goals, a desire to moderate or develop other safer-using practices, or the desire for abstinence. Of course, even "unrelated" topics may be interwoven with the substance use, but working with them may not necessitate detailed discussions of drug use. Differences of opinion between patient and clinician can be dealt with by establishing an alliance around the goal of discovering together what is most realistic for the patient.

A treatment plan will be developed collaboratively based on the therapist's assessment and what the patient wants from therapy. The needs hierarchy is based on Maslow's (1970) work and it is a list of all of the things that are troubling the patient, which is then organized into a set of priorities. This will most likely include substance- and non-substance-related situations. Goals for each of these problems will be chosen and strategies for reaching each of them will be formulated. While the clarification of therapeutic goals is a joint venture, ultimately the patient decides on the goals. Marlatt (1998) reviewed studies supporting the importance of honoring and starting from the patient's choice of treatment goals. He found that when offered the option of pursuing moderation or abstinence goals regarding drinking, patient retention and positive outcomes for both groups significantly increased.

In terms of substance use, the information from the assessment, combined with the patient's motivational state, can be used to decide whether the goal will be to (1) continue with the current pattern but monitor it for problems, (2) make changes to reduce harm, (3) move toward a state of moderation, or (4) embrace abstinence as a goal. While this is a collaborative enterprise, it is also incumbent on the therapist to speak and act if

he or she feels that patients are putting themselves in immediate danger. The therapist may have to express concern about dangerous behavior the patient is unable to recognize due to self-care deficits, self-harming tendencies, or other dynamics that render this behavior acceptable to the patient. Over time, in the context of a good therapeutic alliance, the patient may be able identify with the therapist's caring attention to danger and internalize the capacity to better care for him- or herself.

Marlatt (1998) has suggested that substance use is best viewed as varying along a continuum of harmful consequences with chaotic use on one end and moderate nonproblematic use and abstinence on the other. From this perspective, a general goal of harm reduction interventions is to support the patient in making changes in substance use that move along the continuum in the direction of reduced harm. Thus, any step that reduces harm is defined as a success. Another way to look at this, using Denning's (2000) metaphor, is that the person is developing a new relationship with the drug.

Kellogg (2003; Kellogg & Kreek, 2005), taking a somewhat broader perspective on the role of goals in harm reduction interventions, has emphasized the importance of seeing abstinence, moderation, or some other kind of nonaddictive relationship with the substance as the ultimate, if not the immediate, goal of the harm reduction enterprise. By keeping this endpoint in mind, the therapeutic encounter will, we hope, contain a positive tension between the immediate or short-term goals of the patient and the long-term goals of abstinence or "true" moderation. This "gradualist" perspective on the interrelationship between goals and action can help increase the psychotherapeutic momentum.

Creating a Plan of Action

Tatarsky (2007) has suggested the *ideal substance use plan* as a strategy for helping patients clarify problematic aspects of use, set new goals for using, make alterations in other areas of life that will support these changes, and develop strategies for working toward these goals. This plan is worked out with the patient and is geared to maximize the positive benefits of drug use while minimizing the negative consequences or dangers to self and others. Difficulties in successfully following through with the plan are examined in detail. A persistent difficulty in achieving the treatment plan goals may reflect and clarify the multiple meanings and functions that underlie the current pattern of using substances. Some patients may be able to identify some of the forces that drive their use, although their understanding may be incomplete. Others may have little or no idea about the emotional underpinnings of their use; in fact, the whole purpose of "addictive" use as a form of relating to the substance is to not know what is going on underneath. Exploration of these "failures" can be a rich source of information

about the patient's inner world. Techniques include a retelling of the story with particular attention to the emotional valence of the situation, asking the patient to associate to the various details of the event, or, as Young does in his work, having the patient bring up images or memories from the past that connect to what has transpired (Young et al., 2003).

Treatment Techniques

Given the complex interaction of biopsychosocial factors and multiple possible meanings that may be related to problem substance use, harm reduction psychotherapists will, ideally, be skilled in psychodynamic, cognitive-behavioral, and experiential techniques that may be matched to the unique needs of each patient.

A good place to begin therapy is to help patients become more aware of their drug-using process. This can be done by helping the patient cultivate a stance of nonjudgmental, compassionate self-observation. The benefit of this "observing witness" is that the person is no longer completely identified with the behaviors related to drug use; instead, he or she creates some space that provides the possibility of internal dialogue and change. Through this patients can become more deeply aware of the thoughts, feelings, and sensations that they are having as they are both contemplating the use of substances and actually using them. This stance is also a constructive alternative to a self-critical shame-, guilt-, and anxiety-based attitude toward substance use that interferes with many users' attempts to make positive change.

Denning and colleagues (2000, 2004) have been inspired by Zinberg's (1984) work on drug, set, and setting. This view is based on the idea that the totality of the substance-induced experience develops out of the nexus of the neurotransmitter changes induced by the chemical (drug), the personality and cognitive attitude of the user (set), and the particular setting (i.e., with friends or alone, in a familiar or unfamiliar place, and the broader social and cultural context). Because the combination of factors will be different for each user, the resulting drug experiences will again be unique, and since each of these contribute to the outcome (although not necessarily in equal amounts), effective changes can be made through targeting one or more of these factors.

Pioneering work was done on changing drug use patterns in this arena by Dan Bigg of the Chicago Recovery Alliance. Known as substance use management (Bigg, 2008), interventions focus on making alterations in the amount, type, and frequency of drug use and/or the route of administration. Intervening with a person's set involves understanding that people may use the same substance in different ways or use different substances at different times depending on their emotional state. As psychotherapy continues and inner pain recedes and coping skills increase, there may be a correspond-

ing change in substance use patterns. Tatarsky (2002) has pointed out that identifying and resolving co-occurring issues actually changes one's relationship to and motivation to change one's substance use.

In terms of setting, the most straightforward question is whether people are using alone or with others. Those who go to bars and then repeatedly drive when they are too intoxicated to do so safely might be better off drinking at home. Those who tend to isolate and are using dangerously high levels of drugs might be better off using with others so that their use does not become fatal (Denning, 2000). Tatarsky (2010) has collected a group of techniques designed to help patients address both the cognitive-behavioral and dynamic-meaningful aspects of changing problematic patterns of substance use. These can be taught informally in therapy or formally in groups. The following strategies can be given to patients on a handout that describes the techniques.

STRATEGIES FOR POSITIVE CHANGE

- *Self-monitor* the event–thought–feeling–urge to use–thought–choice sequences that result in decisions to engage in old patterns of using or make new choices.
- *Crave/urge surf*. Notice the urge to use and sit with it. Take 5 seconds, 3 minutes, or as long as you choose. Surfing the urge puts a space between it and whatever you choose to do. Describe it in terms of its feelings, sensations, and fantasies about what you hope to get from using. While you are surfing the urge you are not acting from impulse or habit.
- *Playing with the habit* rather than demanding change can make the process easier and less of a set-up for frustration. See what happens if you change your habits in some way.
- *Dialogue with the urge*. Consider both sides of your ambivalence about giving in to the urge. Ask yourself if using at this point is the best choice given all of your interests.
- *Identify your triggers*. Move your focus away from the urge and consider what happened just before that may have triggered it. Is using the best or only solution to that feeling, thought, or event? What else you might do to express, care for, or otherwise respond to the trigger?
- *18 alternatives*. Create a list of 18 alternative reactions to the things that usually trigger your desire to use. (Eighteen is the number that a patient came up with for himself.) Practicing alternatives lowers the chances of coming to depend on using as the only response to your triggers. Having alternatives provides a range of possible ways to care for yourself.

- *Have a game plan.* Plan in advance for each situation in which you may be using. Decide on your intended goals for the event. See if you can anticipate challenges to your plans and develop strategies to meet them. For example, what will you say when a friend questions you about your new pattern of using? What will you say to yourself and do when you know you have met your limit and you feel the desire for more?

Drug Use during Treatment

As a core principle, it is to be expected that people are likely to use substances while in treatment. HRP aims to understand the specific meanings this has to the patient and respond accordingly. In terms of in-session intoxication, the patient may be trying to express his or her ambivalence about changing the pattern of use. It may also be an attempt by the patient to share the experience of being intoxicated directly with the therapist so that the therapist will better understand the patient. Lastly, some patients feel the need to be intoxicated to get the courage to speak about things that are frightening or painful. Continued substance use outside of the session may reveal something about the patient's level of motivation or the severity of issues related to using. It may also reflect the possibility that the meanings that underlie his or her use have not been sufficiently addressed. It is always important to consider continuing substance use as a communication of the need for more support or more intensive structured treatment.

HRP is, at its core, about the reduction of harm and bringing a better quality of life to the patient. At times, substance use is clearly self-destructive, life threatening, and potentially harmful to others; it may also reflect suicidal, self-harming, or homicidal wishes. In situations in which the patient is putting him- or herself in immediate danger, the therapist will be required to take action. Harm reduction in these circumstances means not colluding with self- or other-destructiveness; it is taking a position in favor of life and positive change, and it may look very much like a traditional limit-setting intervention. This can range from suggesting that the evidence is mounting that moderation or controlled use is clearly not working, and that the patient may need to consider abstinence as a goal, and/or enter a more intensive, structured treatment.

Countertransference

Working with patients of any kind engenders countertransference feelings, that is, reactions in the therapist toward the patient. Substance users may be a particularly evocative group of patients in this regard. There are several reasons for this.

Given the ubiquitous nature of addictive behaviors, it is quite likely that psychotherapists have had encounters with people who use alcohol and drugs in their personal lives. This personal experience, consciously or unconsciously, often contributes to their motivation to work with substance users. Some of these encounters were probably not pleasant, and some may have been traumatic. In these cases, it is likely that personal countertransference reactions based on this history will be evoked by experiences with patients.

In mainstream addiction treatment settings, the clinical institution may be putting overt or covert pressure on therapists to “get” their patients sober. This pressure may also be rooted in obligations to funding sources. This means that counselor “success” may be based on patient abstinence. Understanding therapeutic success in this manner is likely to lead to feelings of frustration and dislike as the practitioner is trapped between the patient and the administration.

A related kind of countertransference can take place with a practitioner who has successfully overcome his or her own addiction. Knowing that it can be done may make it particularly frustrating to work with patients who appear to refuse to take the steps that would lead to their healing.

As noted above, with addictions and drug use, countertransference may also have societal roots. Kellogg and Triffleman (1998) have argued that addiction is unusual among the psychiatric disorders, in that our society is torn between whether it envisions problematic drug and alcohol use as a disease or disorder to be healed or as a crime to be punished. This ambivalence permeates the treatment system as a whole, including the psyches of the treatment staff and the patients. While harm reduction, at its best, represents the triumph of the medical over the criminal model, it does not mean that, even with the best of intentions, therapists do not carry punitive and stigmatizing voices within themselves.

Unexamined, countertransference can derail treatment by interfering with the therapist’s ability to listen. Therapists will, therefore, need to engage in some form of self-examination and monitor their experience during and after their sessions to identify what has been triggered within them. As a relatively new approach to working with active drug users, HRP will confront many therapists with a new set of challenges, which include developing an expanded comfort zone of difficult situations that they can work with while reaching their own definitions of what is a healing process and what is a form of “enabling” destructive behavior.

Horizontal and Vertical Interventions

Lastly, it may help to envision the challenge of HRP as the ability to work in two dimensions simultaneously. Traditional or mainstream treatment approaches have often focused on what might be called *horizontal* inter-

ventions, or on therapeutic activities primarily focused on changing drug-using behavior. Earlier psychodynamic models tended to focus on what might be called *vertical* interventions; that is, they sought to understand the traumas, conflicts, and pain that were often at the root of the continued use. It now seems likely that each of these alone is an incomplete way to treat individuals who use substances in problematic ways, and that harm reduction psychotherapists will need to be able to work skillfully in both dimensions.

CONCLUSION

HRP is a new and exciting addition to the addiction treatment armamentarium that has a great potential to make the process more attractive to drug-using patients, to increase patient retention, and to improve outcomes. It is based on an expanded view of who can be treated and a corresponding emphasis on the need for treatment to be highly flexible and individualized to fit the unique complexity of the individual. HRP aims to engage patients wherever they are interested in beginning treatment and to support them in a process of positive change with abstinence as one possible goal among many. Thus, HRP builds on abstinence-based treatment in its more ambitious goal of expanding the reach of traditional treatment.

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PART II



AREAS OF CONCENTRATION IN HARM REDUCTION

CHAPTER 3



Harm Reduction for Alcohol Problems

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While the United States has a long history of treating alcohol use problems based on the disease model of alcoholism, the idea behind harm reduction for alcohol use began in the 1960s and has evolved through the years, influencing the development of several different prevention and treatment approaches as well as public policy. In the first edition of *Harm Reduction* (Larimer et al., 1998; Marlatt, 1998), we reviewed the history of the controlled drinking controversy (Dickens, Doob, Warwick, & Winegard, 1982; Marlatt, Larimer, Baer, & Quigley, 1993; Marlatt, Tucker, Donovan, & Vuchinich, 1997). Based on empirical evidence cited in our review, we concluded that even among those previously diagnosed with alcohol dependence, controlled or moderate drinking was a relatively prevalent outcome (occurring at roughly the same rate as sustained abstinence; Armor, Polich, & Stanbull, 1978; Project MATCH Research Group, 1997; Sobell, Cunningham, & Sobell, 1996; Sobell & Sobell, 1995), was associated with

significant improvements in a variety of life domains as compared to continued problematic drinking (Nordstrum & Berglund, 1987; Project MATCH Research Group, 1997; Sobell & Sobell, 1995), and was observed regardless of whether the stated goal of the treatment program was abstinence or moderate drinking (Miller, Leckman, Delaney, & Tinkcom, 1992; Project MATCH Research Group, 1997). We further concluded that harm reduction as applied to alcohol was considerably broader than a focus on controlled or moderate drinking outcomes for alcohol-dependent individuals, and rather encompassed a broad array of policies, programs, and strategies designed to reduce the harm to society and to individuals related to the use or misuse of alcohol (Larimer et al., 1998).

In this second edition, we provide information regarding the epidemiology and consequences (both negative and positive) of alcohol and a brief history of alcohol harm reduction in the United States. This is followed by an updated review of the recent research related to this topic. In particular, we review progress in development of appropriate prevention and treatment approaches based on the increasing sophistication of basic, behavioral, and pharmacological research on alcohol, and review the recent literature documenting the benefits of these therapies on both abstinence and reduced drinking outcomes. We review the research on brief interventions and harm reduction strategies in college students (for a review of harm reduction approaches among adolescents, see Kelly, Chapter 12, this volume), as well as workplace and medical settings. We also discuss the variety of opinions regarding alcohol control policies and their alignment with harm reduction philosophy.

EPIDEMIOLOGY OF ALCOHOL USE: PREVALENCE, PROBLEMS, RISKS, AND BENEFITS

There is good reason to focus on reducing alcohol-related harm. Alcohol is widely used in the United States and most other countries throughout the world. In the United States, 65.4% of the adult population have consumed alcohol in the past year (Grant et al., 2004). In 2009 approximately 51.9% of Americans ages 12 or older reported being current drinkers and nearly one-quarter (23.7%) ages 12 or older participated in heavy episodic or “binge” drinking (consuming 4+/5+ drinks on at least one occasion in the past month for women or men, respectively; Substance Abuse and Mental Health Services, 2009). Though the legal drinking age in the United States is 21 years of age, the majority of youth also have some experience with alcohol. The average age of drinking onset for youth between the ages of 12–20 is 14 (Chen, Yi, Williams, & Faden, 2009).

Alcohol use is associated with a substantial burden of disease worldwide (Room, Babar, & Rehm, 2005). The effects of alcohol vary by region.

For example, among poor developing countries the burden of disease that is attributed to alcohol is approximately 1.3%, while among former socialist countries it is about 12.1%. Overall, alcohol is estimated to account for 4.0% of the global burden of disease (Room et al., 2005). Alcohol is associated with increased mortality from a variety of causes (Naimi et al., 2003; Room et al., 2005), and during 2001–2005 there were 79,646 alcohol-attributable deaths and 2.3 million years of potential life lost attributed to harmful effects of excessive alcohol use (Hughes et al., 2010). Alcohol has been associated with more than 60 different medical conditions (Room et al., 2005), although the relationship between alcohol use and health is complex and multidimensional. Heavy episodic or “binge” drinking has been associated with a number of adverse health effects including unintentional injury, alcohol poisoning, hypertension, acute myocardial infarction, gastritis, pancreatitis, and meningitis (Naimi et al., 2003). Alcohol is also implicated in approximately one-third of reported suicides. During 2001–2005 there were about 5,800 alcohol-attributable deaths and 189,667 years of potential life lost annually associated with suicide (Crosby, Espitia-Hardeman, Hill, Ortega, & Clavel-Arcas, 2009). In addition, alcohol misuse is also associated with a variety of social, educational, and occupational problems. For example, “binge” drinking has been associated with social and economic costs such as interpersonal violence, fetal alcohol syndrome, unintended pregnancy, child neglect, and lost productivity (Naimi et al., 2003).

In addition to rates of alcohol use and related consequences, diagnosable alcohol use disorders (AUDs) affect a significant minority of youth and adults in the United States. The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR; American Psychiatric Association, 2000) defines alcohol abuse as having one or more of the following symptoms in a 12-month period: recurrent drinking resulting in failure to fulfill major role obligation; recurrent drinking in hazardous situations; recurrent drinking-related legal problems; and continued drinking despite recurrent social or interpersonal problems caused or exacerbated by drinking. Alcohol dependence is defined as having five or more of the following in a 12-month period: tolerance; withdrawal; drinking larger amounts or for a longer period than intended; persistent desire or unsuccessful attempts to cut down drinking; spending a great deal of time obtaining alcohol, drinking, or recovering from drinking; giving up important social, occupational, or recreational activities in favor of drinking; and continued drinking despite a physical or psychological problem caused or exacerbated by drinking. In 2001–2002 the 12-month prevalence of abuse and dependence was 4.65% and 3.81% respectively (Grant et al., 2006). The total combined prevalence of 12-month alcohol abuse and dependence (8.46%) represents 17.6 million adult Americans (Grant et al., 2006).

Alcohol misuse is also financially costly. The annual financial cost of alcohol-related harm in the United States, including the cost of alco-

hol abuse and dependence, was estimated at \$184.6 billion in 1998, the most recent year for which estimates are available (Grant et al., 2006). The annual cost of alcohol-related harm for every man, woman, and child living in the United States is roughly \$638 (Grant et al., 2006).

Although alcohol is associated with a variety of harmful consequences at both the individual and societal level, alcohol has also been linked to health benefits. Several studies have found light to moderate alcohol consumption to be associated with a reduced mortality rate (Di Castelnuovo et al., 2006; Lee et al., 2009; McCaul et al., 2010). Moderate alcohol consumption has also been associated with positive effects on coronary heart disease and reduced risk of heart attack by reducing plaque deposits in arteries, protecting against the formation of blood clots, and promoting blood clot dissolution (Malinski, Sesso, Lopez-Jimenez, Buring, & Gaziano, 2004; Rehm et al., 2003; Sesso et al., 2000). Similarly, studies have found light to moderate drinking to be related to a reduced risk of thyroid cancer (Meinhold et al., 2009), non-Hodgkin lymphoma (Morton et al., 2005), Hodgkin lymphoma (Gorini et al., 2007) metabolic syndrome (Alkerwi et al., 2009), osteoporosis (Berg et al., 2008), and rheumatoid arthritis (Källberg et al., 2009; Maxwell, Gowers, Moore, & Wilson, 2010). While heavy alcohol has been found to be a risk factor for stroke, light to moderate use has been shown to be protective against ischemic stroke (Goldstein et al., 2011; Patra et al., 2010) and is associated with a decreased risk of dementia and improved cognitive functioning (Rodgers et al., 2005; Stampfer, Kang, Chen, Cherry, & Grodstein, 2005). Moderate alcohol use is also associated with a lower risk of type II diabetes when compared to no alcohol use or heavy alcohol consumption (Howard, Arnsten, & Gourevitch, 2004; Koppes, Dekker, Hendriks, Bouter, & Heine, 2005). Thus, in considering the appropriate approach to managing alcohol use and related public health harms, it is also necessary to consider benefits accruing as a result of alcohol.

HISTORY OF THE HARM REDUCTION APPROACH TO ALCOHOL PROBLEMS

Given the extensive costs and consequences related to alcohol misuse, interventions to reduce alcohol-related harm are a necessity. However, traditional approaches to treating alcohol problems have primarily focused on abstinence-oriented, intensive, specialized treatment services for severely dependent individuals (Morse & Flavin, 1992; Willenbring, 2010). Approaches incorporating harm reduction principles have had a long and contentious history, particularly in the United States. This is perhaps not surprising, considering that U.S. attitudes toward alcohol resulted in national prohibition from 1919–1933, the United States is the birthplace of Bill W. and Alcoholics Anonymous (AA), and the roots of the modern-day

disease model of alcohol addiction stem in large part from Benjamin Rush's early work and the work of E. M. Jellinek (Jellinek, 1960), both American physicians. Indeed, the American Medical Association first referred to alcoholism as a disease in 1956 (Jellinek, 1960; Levine, 1978), and today most treatment programs in the United States continue to operate from this perspective (Willenbring, 2010). The classic articulation of the disease model of alcoholism posits that it is a primary, chronic, progressive disease and can only be arrested (although not cured) through complete abstinence or death (Morse & Flavin, 1992). Consumption of any alcohol by addicted individuals is believed to lead inevitably to loss of volitional control over drinking behavior and to a reactivation of the underlying disease state. Furthermore, the disease of alcoholism is believed to be characterized by denial and attempts to minimize or hide drinking behavior and problems, resulting in a perception of the need for confrontational approaches and restrictive measures to force addicted individuals to abstain. Thus, the classic disease model is largely antithetical to the tenets of harm reduction, which emphasize respect for and collaboration with affected individuals to find pragmatic ways to reduce the harm caused by excessive alcohol consumption, with or without reductions in use of alcohol per se (Marlatt, 1998; Marlatt et al., 1993).

Beginning in the early 1960s, behavioral researchers began to publish reports contradicting several tenets of the classic disease model, most notably the assertion that individuals previously diagnosed as alcohol dependent could never again drink alcohol without loss of control (Armor et al., 1978; Davies, 1962; Lovibond & Caddy, 1970; Sobell & Sobell, 1973, 1976, 1978). These findings, now well known and widely replicated (see Willenbring, 2010, for a summary), sparked considerable controversy and a divisive debate in both the scientific and popular press (Boffey, 1982; Pendery, Maltzman, & West, 1982). The most heated debate centered around the work of Mark and Linda Sobell, who documented successful outcomes of a randomized trial of controlled drinking training (providing skills to moderate alcohol consumption) relative to abstinence-based treatment as usual for individuals seeking treatment for alcohol dependence. This research was challenged by Pendery and colleagues (1982), who conducted an independent 10-year follow-up of participants from the Sobells' study and published a report regarding only the experimental condition wherein they documented that several participants had continued or returned to excessive drinking and/or were deceased due to alcohol-related consequences. Pendery and colleagues asserted that these findings were inconsistent with the prior published outcomes, and thus accused the Sobells of scientific fraud (Boffey, 1982; Pendery et al., 1982). Although the Sobells were ultimately cleared of these charges by two independent panels (Dickens et al., 1982) and further investigation indicated those participants in the abstinence-oriented treatment-as-usual comparison group fared signifi-

cantly *worse* than the experimental controlled drinking group at 10-year follow-up (Dickens et al., 1982), this divisive and highly publicized dispute had a negative impact on controlled drinking research for more than a decade (Marlatt et al., 1993; Larimer et al., 1998).

Since the publication of the first edition of this book in 1998, a variety of indicators have suggested a shift in attitudes toward greater support for alcohol harm reduction and less adherence to the tenets of the classic disease model in the United States. Numerous researchers have replicated findings in support of controlled drinking outcomes, for both problem drinkers and those with diagnosable alcohol use disorders (Heather et al., 2000; Miller, Kilmer, Kim, Weingardt, & Marlatt, 2001; Sobell, Sobell, & Leo, 2000; Walitzer & Connors, 1999; Walters, 2000). The majority of treatment outcome studies now report both abstinence rates and reductions in alcohol use and problems (Lowman, Allen, Stout, & the Relapse Research Group, 1996; McCrady, Epstein, Cook, Jensen, & Hildebrandt, 2009; Project MATCH Research Group, 1997). Furthermore, challenges to the classic disease model are now well supported in the research literature. For example, a recent invited article (Willenbring, 2010) in the 40th anniversary edition of *Alcohol, Research, and Health* (the official journal of the U.S. National Institute on Alcohol Abuse and Alcoholism [NIAAA]) reviews the history of alcohol intervention research and the many assumptions regarding AUDs that have been disproven through research over the past several decades. Among them, the article notes that in contrast to perceptions of AUDs as progressive and often fatal, most AUDs remit without formal treatment (Dawson et al., 2005; Sobell et al., 2000), rates of AUDs are highest in the youngest segments of our population (Grant et al., 2004), brief treatments are as or more efficacious as more intensive interventions for AUDs and there is no single appropriate treatment option for all individuals with AUDs (Project MATCH Research Group, 1997, 1998), and both abstinence and reduced drinking outcomes are associated with improved quality of life among those with AUDs (Willenbring, 2010; Witkiewitz & Marlatt, 2006). Furthermore, a substantial amount of the public health cost of alcohol is associated with heavy episodic drinking among those who do not meet criteria for an AUD. Thus, Willenbring (2010) argues for the incorporation of screening, outreach, brief intervention, and referral options into primary care and emergency medical settings as a means to address alcohol misuse and alcohol use disorders in order to reduce harmful consequences to the individual and society related to alcohol use. The articulation of these arguments as a key feature of NIAAA's celebration of 40 years of research accomplishments is a clear indication of the shift that has taken place at the highest levels of the U.S. scientific community in support of alcohol harm reduction approaches.

Despite these encouraging developments, there remains considerable work to be done to improve access and reduce barriers to treatment.

Research has demonstrated that less than 25% of individuals who might benefit from alcohol treatment receive care (Tucker, 2001). This is in spite of the prevalence of traditional disease model approaches such as AA. Beliefs inherent in disease model approaches, such as being powerless over alcohol (Step 1 of AA), or zero-tolerance policies toward alcohol use, may turn away individuals seeking help to reduce, but not necessarily eliminate their alcohol use. Providing alternative treatments to the traditional disease model approaches may increase access to care and support a broad range of treatment outcomes (Marlatt & Witkiewitz, 2002). For example, one study evaluated likelihood to attend AA or other alternative treatments (such as meditation and acupuncture) among individuals who expressed concern about their alcohol use. Results indicated that participants reported a preference to attend alternative treatments in the future compared to AA. Participants who had attended alcohol treatment in the past (the most common treatment was AA) were also more likely to prefer to attend alternative treatments in the future. These results were stronger for individuals who had less identification with mainstream culture (Dillworth, Kaysen, Montoya, & Larimer, 2009). These results suggest that nontraditional alternatives to AA are an attractive option that might increase treatment entry for individuals concerned about their drinking.

The rise of interventions capitalizing on alternatives to the disease model of AUDs, including a variety of cognitive-behavioral and motivational approaches that have been shown to be efficacious in producing abstinence and/or moderate drinking outcomes, represents a major advance in attempts to reduce alcohol-related harm. Below, we provide a brief description of several evidence-based approaches to prevention and treatment of AUDs and review the literature in support of these approaches. Nonetheless, as Willenbring (2010) notes, these discoveries have not yet been fully disseminated into settings where the majority of AUD treatment is provided, nor is the public fully aware of these developments in our understanding and treatment of AUDs. Thus, while a variety of alternative options to traditional abstinence-oriented long-term treatment now exist, individuals seeking care for addiction still face many barriers in accessing these services.

SPECIFIC APPROACHES TO ALCOHOL TREATMENT CONSISTENT WITH HARM REDUCTION

Several treatment approaches incorporating harm reduction principles have been evaluated in the literature. These include brief motivational interventions implemented in several settings, including colleges and universities, the workplace, and medical settings; behavioral and cognitive-behavioral approaches (e.g., contingency management, skills training, and relapse

prevention); and more recently, mindfulness meditation as a treatment for alcohol use and related problems. Finally, pharmacotherapy has been shown to be an effective tool in both increasing abstinence and reducing heavy drinking behavior.

Brief Interventions

In 1990 the Institute of Medicine (IOM) published an influential report titled “Broadening the Base of Treatment for Alcohol Problems,” advocating (among other things) the development of brief interventions tailored for individuals with mild to moderate alcohol problems, designed to reduce alcohol use and related harm. This was in contrast to the ubiquitous focus on delivery of specialized, intensive, abstinence-oriented treatment services for the small percentage of the population with severe AUDs. It was argued that providing low-threshold brief intervention services to the larger population of individuals with mild to moderate alcohol problems would increase access to care, reduce barriers posed by the stigma as well as the intensity of existing alcohol treatment services, and ultimately have a greater impact on public health. In the 20 years since the IOM (1990) report, there has been an explosion of research on brief interventions for alcohol misuse and alcohol use disorders (Miller & Rollnick, 2009).

In particular, motivational interviewing (MI; Miller, 1983; Miller & Rollnick, 1991, 2002) and related motivational enhancement therapy (MET) have received extensive support in the literature as a means to promote drinking reductions or abstinence and reduce harm related to alcohol use (Hettema, Steele, & Miller, 2005; Miller & Willbourne, 2002; Rubak, Sandbaek, Lauritzen, & Christensen, 2005). MI is defined as a “collaborative, person-centered form of guiding to elicit and strengthen motivation for change” (Miller & Rollnick, 2009, p. 137), and as such, respect and support for clients’ autonomy is of paramount importance. MI focuses on the exploration and resolution of ambivalence regarding behavior change, through eliciting and skillfully reflecting change talk and reducing resistance or “sustain” talk. Choice of an appropriate change goal within MI rests with the client, in contrast to abstinence-only treatment approaches. Thus, MI and related brief interventions are quite consistent with a harm reduction approach, and serve both to increase the breadth of the population served and support a broader range of potential behavior-change outcomes.

Multiple reviews and meta-analyses (Britt, Hudson, & Blampied, 2004; Burke, Arkowitz, & Dunn, 2002; Burke, Arkowitz, & Menchola, 2003; Dunn, DeRoo, & Rivara, 2001; Hettema et al., 2005; Miller & Willbourne, 2002; Rubak et al., 2005) provide evidence of efficacy for MI, MET, and related adaptations of MI (AMI; Burke et al., 2003). Duration of treatment in these studies has ranged from a single 5–10 minute contact up

to four hourly sessions (Rubak et al., 2005). MI and related MET and AMI interventions have been shown to be more efficacious than no treatment or attention control conditions, and equally efficacious as more intensive treatment approaches (Miller & Willbourne, 2002; Project MATCH Research Group, 1997; Rubak et al., 2005). Furthermore, these interventions have been found to be efficacious when implemented across a broad range of populations; at different levels of problem severity; in a variety of settings, including colleges and universities, the workplace, and in medical environments; and by providers with a variety of professional backgrounds.

In addition to the efficacy of in-person brief motivational interventions, Web-based brief interventions have gained popularity over the past several years, and research has found this approach to be efficacious in reducing alcohol-related harm. One program, the Drinker's Check-up (DCU; Hester, Squires, & Delaney, 2005) assesses alcohol use and related problems, gives feedback on drinking behavior, and takes individuals through decision modules that involve exploring readiness to change, reasons for change, goals of change (e.g., abstinence or reduction in drinking), and plan for change and maintenance. Research on this program found a significant reduction in drinking for individuals who completed the DCU up to 12 months after program completion (Hester et al., 2005). A recent study in military populations also found significant improvements in individuals who completed the DCU and demonstrated that lowered perceived norms mediated the relationship between the DCU and drinking outcomes (Williams, Herman-Stahl, Calvin, Pemberton, & Bradshaw, 2009). Web-based programs may also help eliminate barriers to treatment. One study found providing individuals with a Web-based program modeled after the DCU reached individuals interested in treatment but who were not willing to seek more available forms of treatment (Lieberman & Huang, 2008).

Brief Interventions in College Settings

College settings are one venue in which brief harm reduction interventions may be particularly useful. Despite the majority of college students being under the legal drinking age of 21 in the United States, most students drink alcohol at least occasionally. College student drinking prevalence estimates in the United States are 82% for past-year use and 65% for past-30-day use (Johnston, O'Malley, Bachman, & Schulenberg, 2007), with 37% of women and 45% of men reporting at least one heavy drinking episode (five or more drinks) in the past 2 weeks (Johnston et al., 2007), making college students an important risk group for alcohol-related harm. Although the majority of research on college drinking has been conducted in the United States, considerable evidence suggests the developmental period of young adulthood, and college attendance in particular, is associated with increased risk for alcohol use and related negative consequences

across a variety of countries and cultures (Karam, Kypri, & Salamoun, 2007; Kypri, Cronin, & Wright, 2005; Ståhlbrandt et al., 2008). Research suggests college student drinking is influenced by a variety of developmental, contextual, and individual factors (Baer, 2002), including societal and normative cues that excessive drinking is accepted and even encouraged in this setting (Neighbors, Lee, Lewis, Fossos, & Larimer, 2007). Given the salience of individual experience and widespread alcohol use and availability, abstinence-based interventions are often inadequate for reducing harm in college students. Thus, brief motivational or skills-based approaches that seek to reduce harm associated with alcohol use (Cronce & Larimer, in press; Larimer et al. 2001; Larimer & Cronce, 2002, 2007; Marlatt et al. 1998) are an important component of a comprehensive approach to college drinking. It is important to note that these approaches are not incompatible with abstinence goals—they only supplement the available choices and decisions made by the student. In other words, students who abstain from alcohol can still benefit from harm reduction approaches while maintaining a personal choice to not drink, and students who choose to drink can enhance motivation to avoid alcohol-related harm and learn moderation techniques to achieve their goals. These approaches seek to meet students where they are, rather than requiring them to commit to a goal that may be incompatible with their experiences.

Dozens of studies over the past two decades have provided support for brief, skills-based, and motivational interventions in college populations (see Carey, Scott-Sheldon, Carey, & DeMartini, 2007; Cronce & Larimer, in press; Larimer & Cronce, 2002, 2007; Walters & Neighbors, 2005; White, 2006, for reviews). The NIAAA (2002, 2007) designated Tier 1 interventions that have demonstrated favorable outcomes in at least two independent studies with college students. Two harm reduction approaches were provided as specific examples of the Tier 1 general approaches: Alcohol Skills Training Program (ASTP; Baer et al., 1992; Kivlahan, Marlatt, Fromme, Coppel, & Williams, 1990; Miller et al., 2001); and Brief Alcohol Screening and Intervention for College Students (BASICS; Baer et al., 2004; Dimeff, Baer, Kivlahan, & Marlatt, 1999; Marlatt et al., 1998). BASICS has also been identified as an evidence-based program by the Substance Abuse and Mental Health Services Administration National Registry of Evidence-Based Programs and Practices (www.nrepp.samhsa.gov, last accessed January 24, 2011); the program is used by many colleges and universities.

ASTP, provided in a group setting, combines cognitive-behavioral skills, norms clarification, and motivational enhancement techniques (Miller et al., 2001). ASTP has been tested in eight-session, six-session, and two-session formats. Outcome findings include reduced alcohol intake (decreases of 40–50%) as well as negative consequences with reductions sustained for up to 2 years (Baer et al., 1992; Fromme, Marlatt, Baer, &

Kivlahan, 1994; Kivlahan et al., 1990). Recent studies have also demonstrated generalizability across populations, including multicultural and international college students (Hernandez et al., 2006; Ståhlbrandt, Johnson, & Berglund, 2007).

BASICS (Dimeff et al., 1999) is an individual brief intervention incorporating personalized feedback and MI (Miller & Rollnick, 2002), adapted from ASTP components. Studies of BASICS and related brief interventions have shown similar success in drinking reductions and diminished consequences for extensive follow-up periods (e.g., Baer, Kivlahan, Blume, McKnight, & Marlatt, 2001; Borsari & Carey, 2000; Larimer et al., 2001; Larimer & Cronce, 2002, 2007; Marlatt et al., 1998; Murphy et al., 2001).

HR interventions based on BASICS have also shown evidence of efficacy when implemented through Web-based or computer-mediated forms, and have been extended to other problematic behaviors including tobacco use, exercise and nutrition, eating disorders, and violent behaviors. Various controlled trials for Web-based harm reduction interventions for alcohol use have been published (e.g., Chiauuzzi, Green, Lord, Thum, & Goldstein, 2005; Doumas, McKinley, & Book, 2009; Hustad, Barnett, Borsari, & Jackson, 2010; Kypri & McAnally, 2005; Kypri et al., 2004; Neighbors, Larimer, & Lewis, 2004; Neighbors, Larimer, Lostutter, & Woods, 2006; Walters, Vader, & Harris, 2007), with findings demonstrating reductions in alcohol use (Doumas et al., 2009; Hustad et al., 2010; Kypri et al., 2004; Neighbors et al., 2004, 2006; Walters et al., 2007) and alcohol-related problems (Hustad et al., 2010; Kypri et al., 2004; Neighbors et al., 2004; Walters et al., 2007).

Brief Interventions in the Workplace

Harm reduction approaches also extend to meeting individuals where they are not only ready to change, but where they are literally and physically. Harm reduction interventions employed in the workplace have demonstrated reductions in drinking and consequences (Osilla, Zellmer, Larimer, Neighbors, & Marlatt, 2008) and in heavy drinking episodes (Matano, Futa, Wanat, Mussman, & Leung, 2000) for periods up to 3 months following intervention. Other workplace programs have demonstrated an indirect approach in which drinking behaviors are altered through health promotion interventions (Cook, Back, & Trudeau, 1996; Cook & Schlenger, 2002; Deitz, Cook, & Hersch, 2005; Galvin, 2000; Heirich & Sieck, 2000; Kline & Snow, 1994).

Brief Interventions in Medical Settings

Another setting in which brief, harm reduction-oriented interventions show considerable promise is in primary and specialty medical care set-

tings. Research suggests approximately 20% of patients in primary care settings exceed recommended guidelines for moderate drinking and could benefit from brief interventions (Fleming, Manwell, Barry, & Johnson, 1998). These rates appear to be even higher among patients presenting in emergency departments, where research suggests 30–50% of patients (particularly those presenting for severe trauma) screen positive for alcohol misuse or alcohol use disorders (D’Onofrio & Degutis, 2002).

Over the past 15 years, a wealth of evidence has accumulated supporting the benefits of brief physician advice and/or screening, brief intervention, and referral for treatment (SBIRT) in medical settings for reducing alcohol-related harm (D’Onofrio & Degutis, 2004/2005; Fleming, 2004; Fleming, Barry, Manwell, Johnson, & London, 1997; Fleming et al., 2000, 2002; Whitlock et al., 2004). For example, Fleming and colleagues (1997) found patients ages 18–64 who received two sessions (10–15 minutes each) of brief alcohol advice reported significant reductions in alcohol use, hospital stays, and emergency room visits compared to a no-advice control group, resulting in a cost savings of more than \$5 for every \$1 invested in the research and intervention effort (Fleming et al., 2000). Furthermore, effects were found to maintain up to 4 years postintervention (Fleming et al., 2002). Similar outcomes have been demonstrated in emergency department and trauma settings, particularly when a booster session is offered following discharge (Gentilello et al., 1999; Longabaugh et al., 2001; Schermer, Moyers, Miller, & Bloomfield, 2006). Furthermore, a review of brief interventions by Cuijpers and colleagues found brief interventions were associated with reductions in mortality (Cuijpers, Riper, & Lemmers, 2004). In response to these findings, implementation of SBIRT protocols is now the expected standard of care in trauma centers in the United States. Although considerable work remains to fully implement this approach nationwide, this is yet another indication of the increasing prominence of harm reduction approaches to problem alcohol use.

Contingency Management

Although brief interventions based on MI are perhaps the most notable area of advancement in harm reduction for alcohol problems, a variety of other intervention approaches have been developed that are consistent with harm reduction philosophy. One behavioral approach that aims to reduce alcohol use and related consequences is contingency management. Contingency management operates on the principles of operant conditioning, which describes alcohol use (and subsequently abuse) as a behavior that is reinforced and thus maintained by both biological and environmental influences. Thus, contingency management provides positive reinforcement for desired treatment outcomes, including abstinence, treatment attendance, taking steps toward treatment goals, and medication compliance (Hig-

gins & Petry, 1999). Reinforcers may include community vouchers that can be exchanged for retail money, special privileges, or prizes (Higgins et al., 1991; Higgins & Petry, 1999). There are four key components of contingency management: (1) to identify whether alcohol use is occurring, typically via an objective measure such as breathalyzers or urinalyses; (2) identify positive reinforcement relevant to the desired outcome (e.g., abstinence); (3) removal of reinforcement when undesirable behavior occurs (e.g., missed treatment sessions); and (4) increase reinforcement from other sources that may compete with alcohol use, such as improving social support (Petry, Martin, Cooney, & Kranzler, 2000).

Contingency management has been used in a variety of settings, such as outpatient substance use treatment clinics (Petry et al., 2000), community mental health centers (Helmus, Saules, Schoener, & Roll, 2003) and homeless shelters (Tracy et al., 2007). Typically, contingency management has been studied in illicit and polysubstance use populations, including heroin, cocaine, tobacco, benzodiazepines, and methamphetamine (see Pendergast, Podus, Finney, Greenwell, & Roll, 2006, for a review). Limited research has evaluated contingency management as an approach for alcohol abuse or dependence alone.

One study by Miller (1975) evaluated a contingency management intervention to standard care in a small sample of individuals who had committed multiple public drunkenness offenses. Results found those individuals who received positive reinforcement for sobriety significantly reduced subsequent public drunkenness arrests as well as decreased alcohol consumption. Another study by Petry and colleagues (2000) compared contingency management with standard care over an 8-week period in a veteran population. Results showed that individuals in the contingency management group had significantly more clean urinalyses, longer treatment retention rates, higher percentage of treatment completion (84% vs. 22%), longer time to first alcohol use (56 days vs. 45 days), and less likelihood to relapse to heavy alcohol use by the end of treatment (26% vs. 61%). A third study (Helmus et al., 2003) tested the effectiveness of contingency management in individuals attending twice-weekly group session in a community-based dual-diagnosis treatment program for alcohol. Participants attended 20 weeks of therapy, with reinforcement for on-time therapy attendance given during weeks 5 through 16. Results found a significant improvement in on-time therapy attendance, even after removal of the reinforcement schedule at week 16. No positive blood alcohol levels were obtained throughout the course of the study, regardless of the implementation of contingency management. Recently, Litt, Kadden, Kabela-Cormier, and Petry (2007, 2009) compared alcohol-dependent patients in one of three conditions: network support, which aimed to increase participants' social support for abstinence (NS); network support plus contingency management, which provided reinforcement for making steps towards increasing nondrinking social support

(NS+CM); or case management only (CaseM; control group). Initial results found individuals in both NS and NS+CM reported better drinking outcomes than CaseM alone; however, NS+CM did not provide any additional benefit compared to NS alone. A similar pattern of results was found at 2-year follow-up (Litt et al., 2009).

One reason both research and implementation of contingency management in alcohol treatment settings may be limited is the requirement of frequent objective measures of the targeted behavior, such as abstinence from alcohol. Current objective measures of alcohol use, such as Breathalyzers, urinalyses, or blood tests are not sensitive enough to detect use earlier than 4 to 8 hours before evaluation. Thus, in order to accurately detect recent use, measures would ideally be given up to several times a day, which is not feasible in most settings (Kirby, Benishek, Dugosh, & Kerwin, 2006; Stitzer & Petry, 2006). This may help explain the lack of positive blood alcohol levels in the Helmus and colleagues (2003) study. Another feasibility concern is cost of implementation. While approaches have been developed that help minimize cost, such as the “fishbowl” approach (Petry et al., 2000) that utilizes a variable reinforcement schedule by having individuals draw for prizes ranging in monetary value, financial limitations remain a reality for many treatment settings. Research has found that treatment providers are interested in utilizing contingency management, but cost, frequency of monitoring, and lack of staffing may be barriers to this approach (Helmus et al., 2003; Kirby et al., 2006).

Cognitive-Behavioral Skills Training

According to social learning theory (Bandura, 1986) alcohol problems and related negative behaviors arise and are maintained when individuals lack necessary skills to cope with general life stress, such as negative emotional states, and alcohol-specific high risk situations, including the presence of alcohol cues. Cognitive-behavioral approaches for alcohol-related problems attempt to address skills deficits by improving coping skills and behavioral and cognitive strategies for managing high-risk drinking situations, as well as improving general social skills to increase the quality of various relationships, including work, family, and friends. It is theorized that by improving both coping and social skills, individuals will experience an increase in self-efficacy, improving their abilities to employ these learned skills (Longabaugh & Morgenstern, 1999; Marlatt & Donovan, 2005; Monti & Rohsenow, 1999).

Cognitive-behavioral skills-based treatments (CSTs) have been utilized as both stand-alone and adjunct treatments (Monti, Kadden, Rohsenow, Cooney, & Abrams, 2002). CSTs typically comprise several components, including relapse prevention (RP; Marlatt & Gordon, 1985; Marlatt & Donovan, 2005), where individuals learn to recognize high-risk situations

and utilize specific skills to help prevent violation of abstinence or moderate drinking goals. The process of RP involves teaching modeling coping skills, practicing these skills during role plays, and giving feedback to individuals in treatment. Qualitative and quantitative reviews of RP have demonstrated the clinical effectiveness of RP in the treatment of addictive disorders (Carroll, 1996; Irvin, Bowers, Dunn, & Wang, 1999). CSTs also focus on improving interpersonal skills, including teaching effective communication and social skills to help individuals learn to respond to high-risk situations. These skills include training in assertiveness and non-verbal communication, listening and conversation skills, and drink refusal skills. Social skills training consists of resolving relationship problems and developing positive social support networks. The teaching of intrapersonal skills is also a key component. This includes learning to manage drinking urges, restructuring negative thinking, evaluating “seemingly irrelevant decisions” that may lead to drinking behavior, learning anger management skills, and increasing pleasant activities. Cue exposure is another approach utilized in CST. This may include holding and smelling an alcoholic beverage and/or imaginal exposure to real-life settings associated with alcohol use (Kadden & Cooney, 2005; Monti et al., 2002).

Research has found that these approaches have been successful in reducing alcohol use and related problems (Chaney, O’Leary, & Marlatt, 1978; Finney & Monahan, 1996; Miller & Willbourne, 2002); however, the mechanisms by which CSTs are effective remain unclear (Morgenstern & Longabaugh, 2000). Studies comparing CSTs to other alcohol treatment approaches have typically found CSTs to be as effective as other approaches but with no distinct advantage to teaching skills compared to other treatments (Litt, Kadden, Cooney, & Kabela 2003; Project MATCH Research Group, 1997). For instance, one study compared group-based CST with interpersonal therapy. Results found both groups reduced drinking and increased rates of abstinence, and while coping ability was predictive of treatment outcome, CST was not superior to interpersonal therapy group in increasing coping skills (Litt et al., 2003). More research is needed to better understand the mechanisms of change in CST approaches (Litt et al., 2003; Monti et al., 2002; Morgenstern & Longabaugh, 2000).

Mindfulness-Based Approaches

Although traditional cognitive-behavioral approaches focus on changing unhelpful thoughts and behaviors that may increase risk of harm related to alcohol use, mindfulness-based approaches encourage development of awareness and acceptance of thoughts, sensations, and emotions occurring in the present moment without judgment or reactivity (Breslin, Zach, & McMain, 2002; Marlatt, 2002; Witkiewitz, Marlatt, & Walker, 2005; Zgierska et al., 2009). Marlatt (2002) suggests that integrating mindful-

ness meditation may improve treatment efficacy by increasing awareness of sensations such as cravings, emotional states, and physiological arousal. The craving responses that are common to addictive behaviors create a complex system composed of environmental cues and rigid cognitive responding. Two possible pathways may result in providing the positive or negative reinforcement for the initiation or continued use of substances: an individual may be motivated to use a substance in order to experience positive outcome expectancies for the desired effect of the substance, and/or the individual may be motivated to engage in the addictive behavior in order to reduce the negative effects or withdrawal symptoms (Witkiewitz et al., 2005). Mindfulness may help disrupt this system by heightening the individual's awareness and acceptance of the initial craving response without judging, analyzing, or reacting to the craving.

Several studies have evaluated mindfulness meditation as a treatment for alcohol and other substance use (see Zgierska et al., 2009, for a review); however, few have been controlled trials. Most of these studies found positive results for mindfulness-based interventions on substance use outcomes across several different populations. One intervention, mindfulness-based relapse prevention (MBRP; Bowen, Chawla, & Marlatt, 2010; Witkiewitz, et al., 2005), was recently evaluated in a pilot efficacy trial (Bowen et al., 2009). MBRP integrates the past two decades of research on RP as a treatment for substance dependence with mindfulness-based techniques based on mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1990) and mindfulness-based cognitive therapy (MBCT; Bowen et al., 2009; Segal, Williams, & Teasdale, 2002; Witkiewitz et al., 2005).

Bowen and colleagues (2009) conducted the first randomized controlled trial of eight sessions of MBRP compared to treatment as usual (TAU) in a sample of individuals with substance use disorders. Results found that participants in MBRP experienced a greater reduction in days of substance use and craving compared to TAU. Both MBRP and TAU reported a decrease in substance use-related problems, but the two groups were not significantly different from each other. These results provide support for the feasibility, acceptability, and efficacy of MBRP for substance use disorders. Currently, a randomized controlled trial comparing MBRP to RP is underway.

PHARMACOTHERAPY AND HARM REDUCTION

Pharmacotherapy and harm reduction may at first thought seem antithetical, because pharmacotherapy necessarily arises from a biological perspective of alcohol dependence: An extension of this perspective is to medical models and/or outdated disease conceptualizations of "alcoholism" (Jellinek, 1960), which assumed alcohol dependence to be a unitary phenom-

enon characterized by an irreversible loss of control in response to alcohol (Miller, 1993). The assumption behind this conceptualization would be a necessary goal of abstinence for treatment, and indeed two of the three medications (i.e., disulfiram, acamprosate) approved by the U.S. Food and Drug Administration (FDA) are clearly abstinence oriented. Nevertheless, pharmacotherapy is not necessarily antithetical to harm reduction and/or moderation goals, as indicated by recent research findings indicating that at least one medication is more effective in reducing heavy drinking episodes as opposed to abstinence promotion. This section of the chapter reviews the three FDA-approved and most widely used medications for alcohol dependence (disulfiram, naltrexone, and acamprosate), including mechanisms of action and available support for each.

Disulfiram

Disulfiram was approved for use by the FDA in 1951. It is an aversion therapy that works by inhibiting alcohol dehydrogenase and thus resulting in unpleasant symptoms when alcohol is ingested. Alcohol dehydrogenase facilitates metabolism of alcohol and prevents buildup of toxic acetaldehyde, which is associated with both hangover symptoms and flushing. Ingestion of even small amounts of alcohol in the presence of disulfiram typically results in increased heart rate, flushing, shortness of breath, nausea, and vomiting, with effects lasting up to several hours (Rosenthal, 2006; Suh, Pettinati, Kampman, & O'Brien, 2006). More recent research suggests that disulfiram may also have anticraving effects (Petrakis et al., 2005).

Evidence for efficacy of disulfiram has been mixed (e.g., Chick et al., 1992; Fuller et al., 1986; Suh et al., 2006). In general, disulfiram is effective in preventing consumption when an individual is compliant with treatment or when it is administered under close supervision, but in the absence of supervised monitoring, adherence rates have often been notoriously low (Barth & Malcolm, 2010; Fuller & Gordis, 2004; Garbutt, 2009; Suh et al., 2006). One recent study found monitored disulfiram to be superior to unmonitored acamprosate in longer time to relapse and total rates of abstinence; however, the authors acknowledge that the close supervision of disulfiram may have significantly contributed to its effectiveness (Diehl et al., 2010). Given the negative physiological response it causes when alcohol is present in the body, disulfiram treatment is more consistent with abstinence goals and less suitable for someone who may prefer to drink moderately.

Naltrexone

Naltrexone received FDA approval in 1994 and has been administered in two forms, oral and, with more recent FDA approval in 2006, a long-acting injectable form. Naltrexone is a μ -opioid antagonist and works by reducing

alcohol's stimulation of dopamine release from the nucleus accumbens and thus reducing the pleasurable effects of alcohol. In addition, naltrexone has been found to reduce alcohol craving among alcohol-dependent individuals (Monti et al., 1999) and social drinkers (Davidson, Swift, & Fitz, 1996). Oral naltrexone is administered daily, whereas injectable naltrexone is a long-acting, slow-releasing form that is injected intramuscularly once per month. Neither should be taken in the presence of concurrent opioid use (Rosenthal, 2006).

The evidence for orally administered naltrexone has been relatively positive. In their review of 29 randomized placebo-controlled trials of opioid antagonists (primarily naltrexone) Pettinati and colleagues (Pettinati, O'Brien, et al., 2006) reported 70% of trials showed positive effects on heavy drinking. In contrast, only 36% showed positive effects on any drinking (i.e., abstinence). A recent study found heavy drinkers given naltrexone significantly reduced the amount of alcohol consumed on drinking days compared to those given a placebo. In addition, similar to other studies, findings showed an overall reduction of 16.5% in drinking behavior in the naltrexone group; however, this decrease was not significant (Kranzler et al., 2009).

Although compliance to treatment is less problematic for orally administered naltrexone in comparison to disulfiram, it remains an issue (Garbutt, 2009; Volpicelli et al., 1997). However, injectable naltrexone provides opiate blockage for at least 1 month, increasing adherence to treatment (Galloway, Koch, Cello, & Smith, 2005). Although direct comparisons between oral and injectable forms of naltrexone have yet to be completed, the relatively limited evidence for injectable naltrexone has been equally favorable in reducing number of heavy drinking days (Garbutt, 2009; Garbutt et al., 2005). In comparison to disulfiram, naltrexone is consistent with both abstinence and moderation goals and may be ideally suited for individuals who do not want to stop drinking altogether, particularly in light of findings that it appears to be most effective in reducing the amount of alcohol consumed rather than eliminating alcohol use completely (Garbutt, 2010).

Acamprosate

Acamprosate, the most recently approved medication for alcohol dependence, was granted approval by the FDA in 2004. Acamprosate is believed to reduce distress symptoms of alcohol withdrawal by increasing GABAergic inhibition through modulatory effects on NMDA receptors (COMBINE Study Research Group, 2003a, 2003b). Thus, at least theoretically, acamprosate provides a complementary approach to naltrexone. Whereas naltrexone works to reduce the pleasurable effects of alcohol, acamprosate is designed to reduce the aversiveness of protracted withdrawal (Pettinati, Anton, & Willenbring, 2006).

Existing evidence for the efficacy of acamprosate has largely focused on promoting abstinence, and the majority of studies have been conducted in Europe (Mason, Goodman, Chabac, & Leher, 2006). In 18 randomized placebo-controlled trials conducted in European countries, 15 found positive effects of acamprosate relative to placebo on abstinence outcomes (Mason et al., 2006). In a recent U.S. trial acamprosate was similarly found to result in a higher percentage of days abstinent relative to control, and, importantly, acamprosate was found more effective among participants who began with an abstinence goal (Mason et al., 2006). In summary, with the notable exception of the COMBINE study (see below), acamprosate to date has shown relatively consistent effects in promoting abstinence among abstinence-seeking individuals when compared to placebo (Kennedy et al., 2010; Mason & Heyser, 2010).

Naltrexone versus Acamprosate

COMBINE is the largest trial to date that has considered unique versus combined effects of pharmacotherapies for alcohol dependence. This large and complex multisite randomized controlled trial evaluated the efficacy of naltrexone and acamprosate, alone or in combination and with or without a combined behavioral intervention (CBI) relative. Comparison groups included placebo groups with or without CBI and a CBI-only group (COMBINE Study Research Group, 2003a, 2003b). Results up to 1-year follow-up indicated positive effects of naltrexone relative to controls on percent days abstinent and likelihood of heavy drinking whereas acamprosate did not outperform control on any drinking measures (Anton et al., 2006; Donovan et al., 2008).

Challenges of Pharmacotherapies

From a harm reduction perspective, pharmacotherapies have pros and cons. Among the benefits of this approach are that pharmacotherapies are typically self-administered and require minimal effort on the part of the individual in comparison to more traditional treatment options. In contrast, pharmacotherapies currently require prescriptions and are accompanied by costs and barriers inherent in accessing medical treatment. Moreover, disulfiram, and to a lesser extent acamprosate, necessarily assume an abstinence goal and are not a good match for individuals who simply want to reduce problems associated with drinking without eliminating all consumption. Naltrexone does not have the same inherent limitation and may be a better fit for moderation goals, assuming the provider does not insist on abstinence when prescribing it.

The opportunity to self-administer pharmacotherapy is both a pro and con. Taking disulfiram is analogous to self-administering an aversive pun-

ishment in response to drinking, which may well work for some individuals, but low adherence rates suggest that many are reluctant to control their drinking in this fashion. Naltrexone and acamprosate have been accompanied by better adherence rates, and at least on the surface, appear to better match the tenants of harm reduction. Nevertheless, all three medications have shown good effects under some conditions and warrant inclusion in the list of potential tools to consider in reducing alcohol-related harms.

While a wealth of new information and research findings related to pharmacotherapies for problem drinking has arisen since the first edition of this book there remain many unanswered questions. With the exception of the COMBINE project, few studies have considered the effects of pharmacotherapies independent of psychotherapy; thus, whether pharmacotherapies are uniquely helpful over and above other therapeutic approaches remains largely unknown. Similarly, although there is some support for the use of naltrexone in the treatment of adolescent alcohol dependence (Deas, May, Randall, Johnson, & Anton, 2005) there have been few controlled evaluations of pharmacotherapies in adolescent (Waxmonsky & Wilens, 2005) or other subpopulations. Finally, while we have focused on the three FDA-approved medications, a host of future alternative pharmacotherapies for alcohol dependence are currently in consideration, including selective serotonin reuptake inhibitors, anticonvulsants, and antipsychotics (Garbutt, 2009; Rosenthal, 2006), among others.

HARM REDUCTION POLICIES

Supplemental to clinical and pharmacological interventions are harm reduction policies, which similarly aim to reduce alcohol-related harm. Harm reduction policies have been evaluated at the population level, as well as with reference to specific high-risk groups such as college students. DeJong and Langford (2002) developed a typology of alcohol prevention and intervention strategies that highlight the many factors that influence drinking behavior, which include intrapersonal, interpersonal, and community factors, as well as public policy. Harm reduction policies can be summarized into three general categories, which include policies that aim to reduce alcohol-related harm by (1) restricting access to alcohol, (2) decreasing barriers to help intoxicated individuals in need of assistance, and (3) outlawing specific harmful behaviors. In the United States, public policies that govern the manufacture, sale, and use of alcohol and define society's responses to alcohol-related behaviors are established by federal, state, and local governments. Because these policies are established at different levels of the government, it is often difficult to determine the effectiveness of these policies. However, there have been a number of recent reviews and analyses of the literature that provide support for these harm reduction policies.

Restricting Access to Alcohol

Taxation and Pricing

Research on taxation continues to demonstrate that alcohol consumption and related health behaviors decreases as taxes increase but that mixed results for alcohol poisoning continue to be found. The taxation of alcohol can be a source of revenue, as well as a means to reduce harm by decreasing consumption. While taxation of alcohol in the United States is relatively low compared to Scandinavian countries such as Finland and Sweden, recent research has found that alcohol taxation in the United States has an impact on various health-related outcomes (Chesson, Harrison, & Kassler, 2000; Markowitz, Chatterji, & Kaestner, 2003; Ponicki & Gruenewald, 2006). Ponicki and Gruenewald (2006) evaluated the impact of alcohol taxation on liver cirrhosis mortality from 1971 to 1998. They found that decreasing cirrhosis rates were significantly associated to increases in taxes on distilled spirits but not on wine and beer. Markowitz and colleagues (2003) found that higher beer taxes are associated with a reduction in the number of young adult male suicides. Harrison and Kassler (2000) evaluated the relationship between rates of sexually transmitted infections (STIs) and alcohol taxes from 1981 to 1995 and found that an increase in alcohol tax rate was associated with decreased gonorrhea rates. A recent review of the literature in college students (Toomey, Lenk, & Wagenaar, 2007) indicated that research evaluating the effect of alcohol pricing on alcohol-related negative consequences are mixed. The authors' summary of the literature indicates that some research shows increased pricing was associated with decreased negative consequences in a number of countries, including Canada, England, and the United States, while some research shows mixed results.

Alcohol Sales and Outlets

Evaluations of restrictions on hours and day of alcohol sales are also mixed, with some research suggesting that increased hours of sale are associated with increased consumption and consequences, and some research suggesting no relationship (Giesbrecht & Greenfield, 2003; Toomey et al., 2007). Similarly, research on density of alcohol outlets has produced equivocal results that depend on type of outcome, type of alcohol establishment examined, or both (Giesbrecht & Greenfield, 2003; Toomey et al., 2007; Treno, Johnson, Remer, & Gruenewald, 2007).

Minimum Legal Drinking Age

In the United States, perhaps the most well-known and well-studied alcohol control policy is the minimum legal drinking age (MLDA; Wagenaar & Toomey, 2002), which intends to lower alcohol use and associated nega-

tive consequences among youth. The MLDA originated when the majority of states established an age-21 MLDA following Prohibition. However, decades later, in the 1970s, some states began to lower the MLDA. In response to research indicating that lowering the MLDA increased traffic crashes in youth, the federal government enacted the National Minimum Drinking Age Act in 1984, which would allow the withholding of federal highway funds from states that failed to establish an age-21 MLDA. By 1989 all states and the District of Columbia established an age-21 MLDA.

Recent reviews and analyses of the literature have found support for the effectiveness of the MLDA on reducing alcohol consumption, youth traffic fatalities, traffic crashes, criminal activity, and/or other health-related outcomes (French & Maclean, 2006; Ponicki, Gruenewald, & LaScala, 2007; Voas, Tippetts, & Fell, 2003; Wagenaar & Toomey, 2002). Wagenaar and Toomey (2002) completed a review of the literature from 1960 to 2000 on the effects of the MLDA on alcohol consumption, traffic crashes, and other health-related outcomes. When considering studies of high methodological quality, such as those that included a longitudinal design, comparison groups and probability sampling, or use of a census, the authors report that 33% of studies found a significant inverse relationship between the MLDA and alcohol consumption, whereas only 1% of studies found a significant positive relationship. However, none of the studies focused on college students (9% of the high-quality studies) found a significant relationship between MLDA and alcohol consumption. Again focusing on higher quality studies, the authors found that 58% of the studies found a significant inverse relationship between MLDA and traffic crashes, and no studies found a significant positive relationship. None of the higher quality studies focused on college students. However, a recent examination of the relationship between MLDA and young drivers (ages 16–20) suggests a strong inverse relation between MLDA and alcohol-related driving accidents (McCartt, Hellinga, & Kirley, 2010).

Finally, when evaluating the relationship between the MLDA and other outcomes, such as suicide, homicide, or vandalism, the authors found 35% of the higher quality studies revealed a significant inverse relationship between MLDA and other health-related outcomes. No significant relationship was found for the higher quality studies that included college students. In summary, Wagenaar and Toomey's (2002) review revealed an inverse relationship between the MLDA and alcohol consumption and traffic crashes and other health-related outcomes and suggests that MLDA is one way to reduce alcohol-related harm, at least in the general population. Their review also suggests that there is less evidence to support MLDA's role in reducing harm in college populations, perhaps due to the availability of alcohol in college environments despite legal implications. The continued use of alcohol in underage college populations despite the MLDA is one of the arguments that has been presented for lowering the MLDA to 18.

Despite the substantial body of research demonstrating the efficacy of the MLDA on reducing alcohol-related harm, considerable controversy exists regarding this policy (see Toomey, Nelson, & Lenk, 2009, for a history of the controversy; Wechsler & Nelson, 2010). Following their review of the literature, Wagenaar and Toomey discuss a number of issues related to the MLDA. For instance, youth between the ages of 18 and 21 drink alcohol regardless of the MLDA, and heavy drinking continues to be a problem among college students despite the MLDA. Along with these findings, as of January 2011, presidents and chancellors of 135 universities and colleges have signed the Amethyst Initiative (www.amethystinitiative.org), which is an initiative to call for public debate of the MLDA. The Amethyst Initiative posits that given the prevalence of heavy drinking in underage populations, closer examination of the drinking age should be brought to discussion, and continued efforts to reduce alcohol-related harm in young adults who drink may be a more important focus compared to the implications of having a MLDA. Regardless of the debate around whether the MLDA should be lowered to 18, the initiative does lay bare the issue that heavy drinking continues to be an important area to address in order to reduce alcohol-related harm in underage populations.

A second argument related to the MLDA is that lower rates of alcohol-related crashes among youth are not a result of the MLDA but rather a result of increased drinking-driving education and tougher penalties. Spawned from this argument, some individuals suggest that the MLDA should be lowered to 18 and that we should instead raise the legal driving age to 18. In response, research has shown that the MLDA is the cause for declines in alcohol-related crashes, not tougher penalties. Moreover, research has shown that early education alone is not sufficient to reduce youth drinking (Clayton, Cattarello, & Johnstone, 1996; Ellickson, Bell, & Harrison, 1993; McCartt et al., 2010).

Although not the final argument associated with the MLDA, others make a case that having an MLDA of 21 makes drinking more desirable and that youth will actually drink more when they turn 21. Research finds that the opposite is true, such that limiting access to those under 21 results in less drinking prior to and following turning 21 (O'Malley & Wagenaar, 1991; Toomey, Rosenfeld, & Wagenaar, 1996).

Recently, some states (e.g., Minnesota, North Dakota, and Texas) have redefined the MLDA, such that a person is not 21 years of age until the morning on the day of that person's 21st birthday (e.g., 7:00 A.M., 8:00 A.M., etc.), which was done to reduce the prevalence of harmful drinking traditions, such as the "power hour" (i.e., consuming 21 shots in the hour between 12:00 A.M. and 1:00 A.M.). However, because these changes are extremely recent and have only occurred in a few states, research has yet to evaluate whether pushing the MLDA to the morning after turning 21 will have an impact on drinking-related outcomes.

Decreasing Barriers

Harm reduction policies can also be aimed at decreasing or eliminating barriers to helping an intoxicated individual. For example, in response to the perceived risk of death due to alcohol poisoning, many colleges and universities are implementing medical amnesty policies (also named Good Samaritan policies). Medical amnesty policies are intended to encourage college students to seek help when the symptoms of alcohol poisoning are present. Generally, these policies provide (1) the person who seeks help, (2) the person in need of help, and, if applicable, (3) the hosting organization of the party a promise of amnesty for university policy violations if that student calls for help in a situation where symptoms of alcohol poisoning are present. While these policies are well-meaning and have the potential to reduce harm, they are based on several assumptions: (1) students can identify symptoms of alcohol poisoning, (2) students understand the risk associated with alcohol poisoning, (3) those responsible for help-seeking are sober enough to judge the level of risk and take action, (4) students are currently not seeking help due to fear of getting in trouble, and (5) students will be more likely to call for help if they are assured they will not get into trouble (Oster-Aaland & Eighmy, 2007).

There is little research evaluating the effectiveness of medical amnesty policies. Lewis and Marchell (2006) evaluated the impact of an alcohol poisoning education campaign and a medical amnesty policy at Cornell University, finding that calls for emergency assistance by students in alcohol-related emergencies increased. However, calls were evaluated more generally, and it was unclear whether calls were made to a friend, resident advisor, 911, or others. In addition, the number of students indicating “fear of getting in trouble” as a reason for not calling for help decreased following the implementation of the policy. However, because of the study design, this research did not clarify whether the alcohol poisoning education campaign or the medical amnesty policy was responsible for increased help-seeking behavior. Additional research is needed to evaluate the individual effectiveness of alcohol poisoning education campaigns and medical amnesty policies on reducing barriers for seeking help (e.g., not knowing when to seek help, fear of getting into trouble) in alcohol-related emergencies.

Recently, North Dakota has initiated a medical amnesty policy, such that individuals under age 21 would be immune from criminal prosecution for using alcohol beverages if they (1) contact law enforcement or emergency medical services and report that another individual under the age of 21 was in need of medical assistance in an alcohol-related emergency, (2) provide assistance to the individual in need, and (3) cooperate with medical assistance and law enforcement personnel, or (4) are the individual in need of medical assistance. Because this policy was only recently enacted,

it is too soon to tell whether it will affect seeking medical assistance by individuals under the MLDA.

Housing First Policies

Housing First policies are another example of policies designed to reduce barriers to care. Chronically homeless individuals who have alcohol-related problems may have difficulty seeking or succeeding in treatment for alcohol-related problems. Homeless individuals with alcohol dependence may be one of the most at-risk and yet most treatment-resistant populations. Research shows that these “chronic public inebriates” incur public expenses estimated at more than \$80,000 per person per year (Larimer et al., 2009). Treatment programs and traditional housing opportunities designed to assist this population typically require abstinence from alcohol, and most will evict clients in the case of relapse (Tsemberis, Gulcur, & Nakae, 2004). Harm reduction protocols, on the other hand, seek to offer contingency-free housing and services. Studies have demonstrated a decrease in time spent homeless and an increase in stable housing maintenance for a nonabstinent housing group (Tsemberis et al., 2004), and less drinking and less intoxication as well as an average savings of \$2,449 per person monthly in medical and social service expenses compared to a wait-list control (Larimer et al., 2009). Thus, Housing First harm reduction policies, which support the availability of noncontingent housing as a basic human right rather than contingent on sobriety, appear to be both effective and humane.

Laws Regulating Specific Behaviors

Drunk-Driving Laws

Alcohol-impaired driving remains a concern in the United States (Williams, 2006). Recent reviews and analyses of the literature have found support for the effectiveness of legal blood alcohol concentration (BAC) limits (Bernat, Dunsmuir, & Wagenaar, 2004; Fell & Voas, 2006; Voas, Tippetts, & Fell, 2000; Wagenaar, Maldonado-Molina, Ma, Tobler, & Komro, 2007) and drivers' license suspension policies (Voas et al., 2000; Wagenaar & Maldonado-Molina, 2007) in reducing alcohol-related crash involvement. For instance, when examining the effects of changes in the legal BAC limit in 28 states from 1976 to 2002, Wagenaar and colleagues (2007) found significant support for having a lower legal BAC limit as a harm reduction approach. Specifically, they found that legal BAC limits affected alcohol-related fatal crash involvement for the number of drivers involved in single-vehicle nighttime crashes and for crash involvement among drivers with

various BAC levels. The authors estimated that reducing the legal BAC limit from 0.10 to 0.08 in the United States prevents 360 deaths per year.

Additional research conducted by Wagenaar and Maldonado-Molina (2007) evaluated the effects of driving under the influence (DUI) mandatory preconviction and postconviction drivers' license suspension laws in states that had one to two decades of data on fatal car crashes. Their findings demonstrate the effectiveness of preconviction license suspension laws on reductions of single-vehicle nighttime crashes and for crash involvement among drivers with various BAC levels. However, findings did not support the effectiveness of postconviction license suspension policies. The authors suggested that celerity was an important factor when considering why preconviction laws were effective and postconviction laws were not. Celerity refers to elapsed time between the offending behavior and the experience of the consequence; thus, their findings suggest that the timing of punishment plays an important role in license suspension laws.

Zero Tolerance for Underage Drinkers

In addition to adapting MLDA laws, many states have implemented zero-tolerance legislation, which make it illegal for drivers under the age of 21 to drive after consuming any alcohol. Generally, these laws set the BAC limit at 0.00–0.02%. Voas and colleagues (2003) examined the effectiveness of MLDA and zero-tolerance laws on alcohol-related highway deaths from 1982 to 1997 in all 50 states and the District of Columbia. Consistent with other findings (Hingson, Heeren, & Winter, 1994; McArthur & Kraus, 1999; Shults et al., 2001; Williams, Rich, Zador, & Robertson, 1975), the authors reported support for the effectiveness of MLDA and zero-tolerance laws in reducing the proportion of fatal crashes involving drinking drivers, even when taking potential confounding factors into consideration, such as per capita driving exposure, per capita beer consumption, and safety belt laws.

Server Liability Laws

In the United States, server liability laws aim to prevent alcohol sales and service to minors and intoxicated persons. Research by Toomey and colleagues (2004) found that 79% of establishments studied sold alcohol to a pseudo-intoxicated buyer. This finding suggests that interventions to reduce illegal sales to intoxicated buyers are needed, such as server training and enforcement checks. Research examining the effects of server training has found reductions in server attitudes regarding denial of service for minors or intoxicated individuals, where research has shown equivocal support for changes in behavior (Buka & Birdthistle, 1999; Giesbrecht & Greenfield, 2003; Johnsson & Berglund, 2003; Lang, Stockwell, Rydon, & Beel, 1998; McKnight, 1991; Saltz, 1987; Toomey et al., 2001, 2007; Wagenaar,

Toomey, & Erickson, 2005; Wallin, Gripenberg, & Andréasson, 2005). For instance, Toomey and colleagues (2007) found that although their training initially reduced likelihood in illegal sales to intoxicated individuals, these effects shortly dissipated. Recent research finds that enforcement checks on alcohol outlets reduce the likelihood of illegal alcohol sales to minors (Scribner & Cohen, 2001; Wagenaar et al., 2005). However, effects of compliance checks did not impact establishments that had not been checked (Wagenaar et al., 2005), which suggests that compliance checks would need to be conducted on all establishments, rather than a random sample of establishments (Toomey et al., 2007).

Environmental Harm Reduction

Reductions in alcohol-related harm can also result from environmental changes, including those related to policy (e.g., server policies, MLDA), the normative environment, alcohol promotion, alcohol-free options, and alcohol availability (DeJong, 2002; DeJong & Langford, 2002; Hingson & Howland, 2002). Treno, Gruenewald, Lee, and Remer (2007) evaluated the effectiveness of a community prevention trial and found a reduction in alcohol-related problems, such as assaults and motor vehicle crashes. Their community prevention efforts included community organization and awareness, responsible beverage service, and underage-access and intoxicated-patron law enforcement. Wagenaar and colleagues (2005) assessed the effectiveness of a community organizing intervention, which aimed to reduce the accessibility and sales of alcohol to youths under the MLDA and reduce community tolerance of underage drinking. They found significant reductions in individual drinking behaviors among 18- to 20-year-olds (e.g., less likely to try to buy alcohol, less likely to drink in past 30 days) as well as the practices of alcohol establishments (e.g., increased age-identification checking, reduced propensity to sell to minors).

CONCLUSION

Harm reduction approaches to alcohol are very broad and encompass a variety of prevention and treatment options as well as policies and environmental strategies to reduce the harm related to alcohol problems. Overall, harm reduction approaches have demonstrated effectiveness at reducing drinking and/or associated harmful consequences across a variety of contexts, levels of motivation or problem recognition, and ranges of problem severity. Although political pressures and public perceptions are at times less than supportive of these methods, empirical studies support their use for reducing problems for the individual and their social network as well as society in general.

Over the past decade, there has been considerable progress regarding support for and implementation of alcohol harm reduction policies and practices in the United States. This is evidenced both by the rapid expansion of prevention and treatment options based on alternatives to the disease model, as well as by the increasing acceptance of alcohol harm reduction policies in the United States. In particular, the growth of brief interventions for alcohol problems, explicitly based on a continuum model of alcohol problems and designed to lower the threshold for access to alcohol services, is a major advance in the field. Implementation of screening and brief intervention into college, workplace, and medical settings is a major step toward reducing the harm caused by alcohol misuse. The rise in policies to reduce barriers to care, including medical amnesty policies on college campuses and Housing First policies for chronic public inebriates, also represents a promising development.

Despite progress in the arena of alcohol harm reduction in the United States, considerable work remains to be done. Despite the existence of a variety of new evidence-based interventions, it is still the case that most individuals who might benefit from alcohol services receive no care (Tucker, 2001), and there is a considerable gap between the development of tested, efficacious intervention approaches and the availability of such approaches in usual care settings. Furthermore, there continues to be a lack of knowledge among the general public regarding alternatives to the disease model. Finally, opposition to some harm reduction policies, such as Housing First approaches for chronic public inebriates, continues to be quite vocal based largely on moral grounds, despite demonstration of pragmatic benefits to both individuals and society.

Based on the current state of alcohol harm reduction in the United States, additional research is needed with a focus on successful implementation of harm reduction policies and practices, and methods for effectively communicating innovations in alcohol harm reduction to the lay public and policymakers. Such efforts are needed in order to continue and accelerate progress toward the adoption of humane, respectful, pragmatic, and effective methods of reducing alcohol-related harm.

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CHAPTER 4



Tobacco

Untapped Potential for Harm Reduction

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Nicotine is one of the most popular drugs in the world. It is most commonly acquired by smoking tobacco, though there are many alternative delivery methods. In addition to its purely recreational attraction as a mild stimulant that simultaneously has calming and focusing effects, many consumers find nicotine useful for improving productivity, combating anxiety, and aiding mental focus. Many people who suffer from clinical and subclinical levels of depression, attention deficit disorders, schizophrenia, and other conditions find relief in smoking, presumably due to the nicotine delivery. Some of these benefits are similar to those from one of the other most popular drugs, caffeine, although many people find the benefits from nicotine to be particularly appealing. Given the substantial benefits, it is not surprising that once nicotine consumption becomes established in a population, smoking prevalence usually remains at 25–30% of the adult population despite massive campaigns to convince consumers to stop, dra-

conian taxes, restrictions on usage, and social vilification. What are considered the great triumphs of anti-tobacco campaigns have pushed smoking a bit below this, to “merely” about one out of every five adults, in a few jurisdictions, but only at the cost of imposing the most punitive and divisive interventions short of prohibition.

The benefits and desirability of nicotine consumption are not widely recognized, a rather odd situation given how many people experience them. This lack of awareness appears largely due to anti-tobacco activists’ success in establishing the notion that people only use nicotine because they are “addicted.” Closer examination reveals that this claim is made without embedding any useful information in the term *addicted*—the word merely puts a label on a phenomenon wherein consumption is so appealing that people choose to not give it up despite the high costs, while begging the question of why this is. Some commentators have suggested that using the same term to describe nicotine use and much more compelling and destructive behaviors dilutes the concept of addiction so much as to render it meaningless (e.g., Atrons 2001; Phillips, 2011a). However, for present purposes, the existence or absence of nicotine addiction, and whether addiction is even well defined generally or specifically with respect to nicotine, is not important. Equally unimportant are debates about whether there are “inveterate” smokers who could never be persuaded to quit no matter what the incentives. Instead, it is sufficient to observe that many people continue to use nicotine despite the high financial and health costs of the most common delivery method, as well as the existence of every anti-smoking measure that is considered practical and effective. The number of smokers in the world continues to increase, and despite much rhetoric to the contrary, no evidence suggests that all nicotine users will eventually quit entirely.

Although using nicotine itself has very low risks (and so is similar to caffeine in this respect as well), most users consume it through an extremely hazardous method. Few realize that almost all the health consequences result not from the desired chemical but from inhaling smoke from burning plant matter. While exact numbers are much more elusive than is often implied, and the evidence clearly does not support the most extreme popular claims, it is safe to conclude that at least one-third, and perhaps the widely claimed one-half, of long-term regular smokers living in communities with Western-level life expectancies will suffer major disease or a substantially hastened death due to inhaling smoke. Most everyone with access to education or mass media understands that smoking is extremely hazardous. Studies have found that although people may not be aware of all of the risks associated with smoking, smokers and nonsmokers alike are not only aware of but tend to overestimate the effects of smoking on both lung cancer and mortality (Viscusi & Hakes, 2007).

Yet many people choose to smoke nevertheless, and the number continues to grow. In populations that have experienced the greatest drops

in smoking prevalence, the change in prevalence has plateaued or at least slowed to the point that population growth causes the total number of smokers to remain roughly the same. Meanwhile, in many parts of the world both smoking prevalence and population are growing. We can expect that prevalence will eventually drop in most populations as people become sufficiently healthy (i.e., reductions in infectious diseases and other risks raise life expectancy enough that smoking becomes a major risk for premature mortality) and educated about the risks. Historical evidence suggests that such education reduces nicotine use prevalence by about half, usually down to the 25–30% range. Extreme anti-smoking measures in populations that are sociopolitically unusual and substantially self-selected by migration (e.g., California, British Columbia, New York City) has resulted in slightly greater reductions in smoking, although total nicotine usage is still in or close to this range. Predictions that even greater reductions in nicotine consumption can be achieved are based on little more than wishful thinking. Thus, separating nicotine delivery from smoke inhalation has the potential to be one of the greatest improvements in human welfare and public health.

FAILURE TO UNDERSTAND THAT SMOKE CAUSES THE DAMAGE

The way in which the “smoking is deadly” message is typically presented results in people thinking that nicotine use, exposure to the tobacco plant itself, or chemicals added to cigarettes by manufacturers cause most of the health risk (e.g., Geertsema, Phillips, & Heavner, 2010; Nissen & Phillips 2010). Although the danger is due almost entirely to inhaling concentrated smoke (e.g., Phillips & Heavner 2009), anti-smoking messages effectively obscure this, suggesting that tobacco or nicotine is the hazardous exposure.

Tobacco, of course, is a plant or the product derived from it, not an exposure. Exposure to it can take any number of forms, including smoking, noncombustion oral or nasal use, and occupational exposures, each of which have radically different health implications. Nicotine use itself is also often conflated with smoking in ways that imply that it causes most or all of the health risks. When nicotine and tobacco users think that all nicotine products and tobacco are equally deadly, they conclude that they might as well smoke. While the explosion in popularity of electronic cigarettes, discussed below, has educated some smokers about the relatively low risk of nicotine itself, there is still widespread ignorance and near complete failure to understand the low risk from Western smokeless tobacco (ST). Surveys show that the vast majority of the public thinks that ST is at least as harmful as smoking (Broome County Health Department, 2006; Health Canada, 2006; Heavner, Rosenberg, & Phillips, 2009; Indiana Tobacco

Prevention and Cessation, 2004; O'Connor, Hyland, Giovino, Fong, & Cummings, 2005; O'Connor et al., 2007; Smith, Curbow, & Stillman, 2007). A fundamental ignorance about health risks (among both the public and ostensible health experts) results in a failure to realize that inhaling smoke from incomplete combustion of plant matter (whatever the plant) exposes the lungs, and thereby the bloodstream and rest of the body, to the damaging effects of a huge number of particles (the "tar" that is generally understood to be part of what is harmful about smoking) and gasses.

As discussed below, the misleading communication often begins with claims by trusted anti-tobacco advocates, who are either lying or pretending to have expertise that they lack. However, it is perpetuated mostly by well-meaning people who blindly repeat the ostensibly authoritative claims (Phillips, Bergen, & Guenzel, 2006; Phillips, Wang, & Guenzel, 2005; Phillips, Wang, Guenzel, & Daw, 2003). Observations by those who promote harm reduction and a couple of formalized studies suggest that clinicians, health educators, and other health professionals are barely less ignorant than laypeople on these points (Borrelli & Novak, 2007; Prokhorov et al., 2002). Many clinicians might encourage using low-risk alternatives if they learned about them, although the opposition and misleading statements (Phillips et al., 2005; Phillips, Bergen, & Guenzel, 2006) by major medical organizations could make this difficult. There is little evidence to suggest that clinicians are encouraging their patients who smoke to switch products, or even correcting their misinformation about low-risk alternatives. The failure of consumers or those who influence their health-affecting decisions to understand the risk differences and act on the practical implications dooms countless smokers to disease and premature death.

THE POTENTIAL HARM REDUCTION VALUE OF LOW-RISK NICOTINE PRODUCTS

The combination of highly desired consumption and a needlessly dangerous method of consumption creates an obvious potential for harm reduction. Rather than pushing users to suffer the welfare loss of giving up nicotine (which many will not do), almost all of the health benefits can be achieved with minimal losses. Discussions of the potential of reducing harm by substituting ST products for cigarettes trace back to the early 1980s (e.g., Kirkland, 1980; Russell, Jarvis, Devitt, & Feyerabend, 1981), and the potential is now universally known to anyone with expertise in the area. However, understanding outside of the community of experts, as well as policy changes, have severely lagged. The information is generally ignored or hidden by anti-tobacco activist organizations and government agencies.

Almost all efforts to reduce the harm from smoking have focused on eliminating nicotine use, rather than minimizing the harm from nicotine use. This represents an anomaly in public health practice, since it is generally accepted that we are better off making popular activities safer rather than assuming we can dramatically reduce prevalence or can (or should) achieve abstinence on a population level. For example, public health leaders encourage seat belts and other transportation safety improvements, but obviously do not suggest eliminating travel. Indeed, they do not even bother to encourage reducing travel out of consideration for health, even though such a reduction would obviously be effective (e.g., higher gasoline prices can result in reduced driving, which leads to a drop in traffic fatalities) (Grabowski & Morrissey, 2006).

Even for hazardous behaviors that are not generally socially accepted, if eliminating the behavior is clearly impractical then risk reduction is encouraged. For example, we discourage all injection of recreational drugs, but we also try to provide clean needles for those who continue to use them. In cases like illicit drug use, large segments of the public and government may object to harm reduction on what might be called puritanical grounds (often mislabeled as “moral” grounds, but they are difficult to trace to any accepted secular or religious moral code). But public health practitioners almost universally accept that we should respond to illicit drug use by promoting harm reduction. Yet many actors who claim to be working to promote public health join those for whom purity is more important than protecting people from disease, actively fighting against reducing harm for nicotine consumers.

This contrast is especially odd, given that the only substantial difference between harm reduction for smokers (hereafter, “tobacco harm reduction,” or THR) and others engaged in risky behaviors is the magnitude of the potential benefits. First, the risks from smoking are greater than those from almost any other voluntary exposure, and when multiplied by the number of smokers, total up to a far greater public health impact than any other voluntary exposure. Second, and even more important, is that the potential percentage reduction in the risk for each individual dwarfs the reductions available even from seat belts or needle exchanges. That there is a substantial reduction in risk should be obvious to anyone with a basic knowledge of environmental health or who notices that about half the health burden from smoking involves lung disease, who would predict that getting nicotine without inhaling smoke would cause substantially less harm than smoking. For modern Western ST, there is substantial epidemiological evidence that suggests that the reduction in risk is about 99% compared to smoking (Lee & Hamling, 2009; Phillips, Rabin, & Rodu, 2006). Although there is far less information about other smokeless nicotine products, extrapolating from what we know about ST suggests that they probably pose similarly low risk; these include the electronic cigarettes

that have exploded in popularity and the less well-regarded pharmaceutical nicotine products. The implications of this comparative risk can hardly be overstated: Switching from smoking to a low-risk source of nicotine is so close to being as healthy as quitting that it is hardly worth worrying about the difference. Indeed, for the common quitting scenario, switching is arguably healthier; the difference in risk is so great that switching to a low-risk alternative immediately and continuing to use it for the rest of one's life poses less total mortality risk for the average smoker than deciding to quit but continuing to smoke just a few more months before becoming nicotine abstinent (Phillips, 2009b).

The ST category includes traditional chewing tobacco, although snuff dipping (holding shredded tobacco between the gum and lip or cheek) has more potential as a replacement for smoking. Snuff is increasingly available in portion products, in teabag-like sachets, that prevent the tobacco from making a mess in the mouth and can easily be used without the need to spit. These are often referred to by their Swedish name, *snus*, and are increasingly popular in the United States, where they are now marketed under two leading cigarette brand names. Other innovative products include finely ground tobacco in dissolvable lozenges or strips that do not even have to be removed from the mouth, and variations shaped like breath strips or toothpicks. (For pictures and more information about some of the products, see Ballin, 2007; Rodu & Godshall, 2006.) Powdered dry snuff for nasal use (the source of the term "snuff"), long out of fashion, has made a modest comeback in some places, possibly because nicotine absorption has a very rapid spike, unlike with oral ST, making it more similar to smoking.

Snuff and chewing tobacco products have been sufficiently popular in Sweden and the United States to provide substantial epidemiological evidence about their effects. (Epidemiology is the science of quantitatively analyzing the occurrence of diseases in humans, usually with a focus of identifying their causes.) Epidemiological studies are possible because many people have used ST products for decades, and so we can observe how their risk of disease or death compares to that of smokers and of nonusers. The evidence shows that the risk for any life-threatening disease, including oral cancer (discussed in more detail below), from ST use is so low that it cannot be reliably measured or even definitively established. This does not mean that ST is completely harmless because the limits of the science mean that we can never rule out small health risks. Based on best estimates of the magnitude of these small risks, we have calculated the comparative risk of fatal disease from ST to be about 1% or perhaps 2% of that from smoking (Phillips, Rabiou, & Rodu, 2006), with most of that based on speculative risk about the mild stimulant effects of nicotine causing an immeasurably small risk of cardiovascular disease. Other calculations have yielded similar results based on different assumptions (e.g., Lee & Ham-

ling, 2009; Rodu, 1994). Various guesstimates, not apparently based on quantification or calculations, have presented a range as wide as 0.1–10% (Levy et al., 2004, Royal College of Physicians, 2007). The 10% estimate is utterly implausible based on the evidence, as discussed below, while the 0.1% estimate seems too optimistic. Even though no mortality risk has been definitively proven, nicotine does cause acute cardiovascular effects (acute hypertension, pulse rate increase) that are shared with other drugs (coffee, energy drinks, decongestants) and are generally believed to acutely trigger cardiovascular events (stroke, heart attack) and perhaps increase their probability over the long run. Thus, it does not seem safe to assume that the mortality risk from nicotine use can be brought lower than about 1% of the risk from smoking.

Pharmaceutical nicotine products and electronic cigarettes are produced by removing nicotine from tobacco and attaching it to an alternative substrate. Widely available pharmaceutical nicotine products include nicotine gum, patches, lozenges, and inhalers. (For more information about these products, see Royal College of Physicians, 2007.) Pharmaceutical nicotine products are sometimes called “nicotine replacement therapy” (NRT) in the context of using them as a short-term clinical intervention to wean people off of nicotine entirely, although this label tends to distract from their potential for long-term, self-administered use that would not normally be called “therapy,” and thus is best avoided when discussing THR. Regulators in the United States and the United Kingdom have moved toward changing the labeling of these products to no longer discourage, and to even encourage, their use in THR, although it is not clear that this will have substantial practical implications. Pharmaceutical products probably pose the same low risks that have been demonstrated for ST, since they are fairly similar in terms of being smokeless nicotine delivery systems, although we have limited direct evidence. Data exist about the immediate effects of use, as well as effects over a several-month course of use (the approved on-label period of use of the products to wean smokers off nicotine altogether), but for various reasons there have been few long-term studies. Nevertheless, it is estimated that a substantial portion of users at any given time are long-term off-label users (Hughes, Pillitteri, Callas, Callahan, & Kenny, 2004). Since pharmaceutical products have been used for decades, if they posed a risk as large as 10% of that from smoking, it almost certainly would have been noticed.

Over the last few years, the THR landscape has been revolutionized by the portable vaporizers that are generically known as “electronic cigarettes” (e-cigarettes) which mimic smoking but involve inhaling only a low-risk vapor that contains nicotine. Despite almost no institutional support and outright hostility by many governments, a strong market and user community of “vapers” (their preferred term, based on the linguistic anal-

ogy “smoke is to smoker” as “vapor is to vaper”) has become established. The dominant ready-made technology, which was invented in China and is now manufactured and sold by numerous companies (albeit under dubious intellectual property circumstances for most of them), involves a battery, heating element, and a cartridge of a gel of propylene glycol and water (basically what is used for fog machines and simulated smoke) with a dose of nicotine in it. Inhaling activates the heating element, which vaporizes some of the gel, delivering nicotine with an action that is very similar to smoking and a vapor that appears and feels somewhat similar to smoke (for more details, see Bergen & Heffernan, 2010; Laugesen, 2008; Phillips, 2011c). The ready-made products that imitate the look of cigarettes dominate the market and are widely available by online purchase and in retail outlets in some jurisdictions, although new technologies are being rapidly driven by users, resulting in a variety of vaping products and customized nicotine-containing liquids that are similar to cigarettes only in that they are used via inhalation.

There appears to be inadequate epidemiology to judge the effects of inhaling propylene glycol vapor many times per day for decades; the available evidence suggests some respiratory problems from large doses, although the studied doses exceed the maximums available through vaping. There is also limited direct evidence of what happens when nicotine is absorbed elsewhere in the airway (without smoke) rather than the mouth, although there is no reason to believe this matters. There are also concerns about accidental poisoning for some (not all) of these products as currently packaged (Laugesen, 2009), and regarding quality control. But when high-quality products are used correctly there is every reason to expect that they are low risk like other smokeless nicotine products, although conceivably not quite as low. Because these products seem to be more appealing than other smokeless options (many smokers and ex-smokers cite the appeal of the social, ritual, and time-and-motion aspects of smoking, not just the nicotine), their potential contribution to THR may be greater even if the risk from using the products turns out to be slightly higher than that from using ST.

There are other variations on cigarettes, often called “potentially reduced exposure products” (PREPs, a badly chosen term because *exposure* is misused: exposure to normal cigarettes is definitely reduced, but exposure to modified cigarettes is increased; it is reduced *harm* where there is unknown potential, not exposure). These include heat-not-burn products (the major venture into these was a marketplace failure; see Parker-Pope, 2001) and chemical variations in cigarette tobacco (which is increasingly being pushed by some factions in the field, including the World Health Organization [Burns et al., 2008]). Estimates of the risk reduction from such modified cigarettes are highly speculative, since there is almost no

epidemiological evidence. Typical estimates range from a risk reduction of half or more for the radical redesigns like the unpopular heat-not-burn, to immeasurably small reductions from changing the concentration of individual chemicals in the tobacco. Thus, such innovations are obviously beneficial for those who continue to smoke but are quite different from encouraging migration to low-risk alternatives to cigarettes.

Among the low-risk product categories, there is much confusion about comparative risk claims. The simple summary is that all such products are roughly 99% less risky than smoking, and there is no evidence to support claims of difference in risks among them (setting aside some archaic American products that might have been higher risk and some South Asian products that are discussed below). It is often claimed that Swedish-style snus is less harmful than other ST products, a claim that appears especially appealing to marketers of snus and some activists who are politically hostile toward American companies (the preference for Swedish-style products may change now that several major American companies have introduced lines of snus). It is true that the Swedish-style production process results in lower levels of a few chemicals, specifically tobacco-specific nitrosamines, or TSNAs (Foulds, Ramstrom, Burke, & Fagerström, 2003), that are suspected to be human carcinogens in sufficient doses (although there is no direct evidence that this is the case). Thus, it is plausible that snus causes slightly lower health risks than other ST products. However, the concentration of those chemicals has been dropping across product categories and is now lower than it was for products that were not shown to cause a measurable risk (Phillips, 2006b). There is similarly no evidence that even dropping below the current ST levels of TSNAs by orders of magnitude, as in e-cigarettes and pharmaceutical products, affects health outcomes.

The oft-repeated claim that pharmaceutical nicotine products cause even less disease risk than any ST is also not supported by scientific evidence. ST contains chemicals other than nicotine that are potentially harmful, but there is no evidence that doses acquired by users of popular Western ST products cause actual human disease. ST also contains chemicals that are potentially beneficial (Rodu & Jansson, 2004) and pharmaceutical products involve exposures other than nicotine intake, so it is not possible to conclude from logic alone that the risks from pharmaceutical nicotine are even lower than the low risks from ST or vice versa. There have been few studies of long-term pharmaceutical nicotine users, so useful empirical evidence does not currently exist. Whatever we eventually learn about the risk from pharmaceutical nicotine products, it seems very likely that the risk is low, and since the risk from ST is clearly very low, it seems safe to conclude that for any practical purposes they offer effectively the same health benefits as substitutes for smoking.

The most important point regarding the comparisons among low-risk products is that there is simply very little room for difference given that all the risks are immeasurably low, and the greatest health risk seems to be the mild stimulant effect of nicotine, which is similar across products. Since evidence that allows the risks to be quantified is limited to ST and is inadequate to compare across modern Western products, claims of differences are speculative, and anyone who claims otherwise is trying to mislead their audience. That said, some such attempts to mislead are used in promoting THR. The widespread misperception that traditional ST products cause substantial risk are extremely difficult to overcome, so manufacturers seem to have concluded that marketing snus and e-cigarettes as having health-relevant differences from traditional ST is a good strategy. Because people are quite willing to accept a claim that a product is “new and improved” and extremely reluctant to learn that they were badly mistaken in their previous beliefs, this approach might prove useful for THR, even though it tends to perpetuate scientific misinformation.

As discussed below, several demographic groups have adopted ST use, demonstrating the viability of switching as a THR strategy. Men and, to a lesser extent, women in Sweden have largely switched from smoking to snus use (Rodu, Stegmayr, Nasic, & Asplund, 2002; Rodu, Stegmayr, Nasic, Cole, & Asplund, 2003; Stegmayr, Eliasson, & Rodu, 2005), as have Norwegian men (Directorate of Health and Social Affairs, 2007; Kraft & Svendsen, 1997; Lund, McNeill, & Scheffels, 2010; Wiium, Aarø, & Hetland, 2009), and some men in the United States have also shown a willingness to switch (Rodu & Phillips, 2008). There is some concern that the cultural specificity of ST use to Scandinavia and particular subpopulations in North America limits its potential. But manufacturers are making concerted efforts to expand ST-based THR to other populations. THR advocates have historically focused on ST as the most promising alternative to smoking, and its affordability makes it the most promising for much of the world’s population. However, e-cigarettes have recently been embraced by new THR advocates who objected to ST-based THR for political reasons or from failure to understand the science, and most longtime THR advocates have recognized e-cigarettes as a promising option in populations that can afford them (they have a lower purchase price than legal cigarettes in wealthy countries with high taxes, but the real resource costs are much higher than for locally grown tobacco, which makes them much more expensive for most of the world’s population). The demographics of e-cigarette use have not yet been well studied. The bulk of the evidence is informal anthropology, although there have been a few convenience-sample based surveys (Etter, 2010; Heavner, Dunworth, Bergen, Nissen, & Phillips, 2009; Siegel, 2011). But it is clear e-cigarettes have gained a substantial following among smokers who have switched to them and among THR advocates, and could crowd out ST-based THR in many markets.

SCIENTIFIC EVIDENCE OF THE LOW RISK FROM SMOKELESS TOBACCO

The potential of THR, at least in the form of substituting ST for cigarettes, is demonstrated by ample epidemiological evidence about health risks and behavioral choices. The popularity of ST in Sweden, the United States, and Norway for many decades resulted in hundreds of studies that have looked at the relationship between ST use and numerous diseases.

Perhaps more important, although usually overlooked, is the evidence from unreported results and descriptive epidemiology about the average disease risk in a population. Because public health studies often collect data on all tobacco use, not just smoking, there have probably been thousands of other studies of disease risks that collected information on ST use. The phenomenon known as “publication bias,” the tendency to publish only those results from a study that are “interesting” (which usually means suggesting an increased risk) or conform to the political bias of the day, is very common in public health research. In this case, that means studies of diseases that include data on ST use but find no association will likely fail to mention that they even looked at ST because the result is not interesting, and those that find a negative association (i.e., a finding that ST users have a lower risk for a particular disease than people who do not use any tobacco product) are likely to not publish it because they do not want to deal with reporting the “wrong” result (Phillips, 2004). Thus, the absence of hundreds of more reports that show a positive association between ST use and disease strongly suggests there are hundreds of studies that found no such association.

In addition, ST use among Swedish men is so common that any substantial health risk from it would appear in the descriptive epidemiology (i.e., basic population health statistics) for that population. However, Swedish men have among the lowest levels of all diseases that are sometimes thought to be caused by ST use (Heavner, Phillips, Hildingsson, & Cockburn, 2009; Rodu & Cole, 2004).

Unfortunately, a nonexpert who attempted a casual assessment of the evidence would likely be misled. In addition to not recognizing the important points above, a nonexpert looking at the headlines or the anti-THR publications would find what appeared to be evidence that ST causes substantial disease risk. For example, in contrast with the ample evidence that the popular Western ST products do not cause a measurable risk for oral cancer (as summarized by Critchley & Unal, 2003; Lee & Hamling, 2009; Rodu & Jansson, 2004), there is some evidence that a type of dry oral snuff that was once popular in parts of the United States caused a measurable risk for oral cancer (Rodu & Cole, 2002), but these products are no longer commonly used. In addition, oral dip products, which may or may not contain tobacco, that are popular in parts of Asia and Africa may cause

substantial risk of oral cancer, although most of the epidemiology is of such low quality it is difficult to draw clear conclusions. These observations about non-Western products and older dry snuff are used as the basis for recent anti-THR activists' claims that ST causes oral cancer (e.g., Boffetta, Hecht, Gray, Gupta, & Straif, 2008; International Agency for Research on Cancer [IARC], 2007). These authors assume (probably quite accurately) that readers will not understand the differences and so believe that the claims are relevant to the products that are proposed for THR. They also appear to be trying to keep readers from realizing that even if the risks were as high as they claim, they would still be very small compared to those from smoking.

The increasing interest in THR has generated a spate of publications by anti-THR activists that purport to show that ST users suffer slightly more disease risk than people who have never used nicotine. Despite this effort, the literature as a whole still fails to present convincing evidence that ST causes any life-threatening disease. Many of the recent studies have been demonstrated to misrepresent the data by focusing on outlier findings and otherwise overstate the risks of ST (for analysis of this point, see American Cancer Society, 2007a; Heavner, Heffernan, Phillips, & Rodu, 2008; Lee & Hamling, 2010; Phillips, 2007a; Rodu & Heavner, 2009; Rodu, Heavner, & Phillips, 2009). Furthermore, even if all the published risk estimates were accurate, the risk from ST use would still be a small fraction of that from smoking. But the anti-THR authors who dominate the literature consistently omit the most relevant information—the comparison to the risk from smoking—and assume (probably quite accurately) that readers will not understand the difference between a large risk and a small risk.

It is biologically plausible that ST can cause acute cardiovascular events. It is a mild stimulant that temporarily increases blood pressure, and most such mild stimulants are believed to trigger incipient strokes and heart attacks. There may be long-term cardiovascular stress caused by these effects also. It is plausible that ST may occasionally cause cancer based on some of its chemical content, although the risk must be low or it would be detectable in the epidemiology. Some individual epidemiological studies, considered in isolation, suggest risks for stroke, myocardial infarction, oral cancer, esophageal cancer, and pancreatic cancer. However, the evidence taken as a whole does not support these claims. (It is inevitable that when there are several epidemiological studies, some of them will show higher effect estimates and some lower. Proper science calls for considering all the evidence, but researchers invested in a particular worldly goal can find it advantageous to identify the most extreme study result and suggest that it represents the overall evidence.) While it is not possible to definitively conclude based on the current scientific literature that ST kills anyone, given the biologic plausibility of risks and the impossibility of distinguishing zero risk from low risk, it seems safe to assume there are some small risks and

some people die from using ST. We are unaware of any credible expert (no THR advocates, manufacturers, or anyone else) who claims that that ST or any other THR product is “safe” or causes no risk of disease or death.

It is tempting just to focus on the very low point estimate of the risk, already noted to be about 1% of that from smoking, but the potential for THR is perhaps best illustrated by the worst-case scenario. It is implausible that, compared to smoking, ST causes 10% as much risk for serious disease or death, and only an extremely pessimistic interpretation of the evidence can get this figure as high as 5% (Phillips, Rabiou, & Rodu, 2006). But even though the common claim that ST is “at least 90% less harmful” is so conservative as to be misleading, it still represents a huge potential for THR. A 90% risk reduction is much greater than the benefits from most harm reduction measures, to say nothing of other public health interventions. ST has not been linked to serious non-life-threatening diseases, unless intermediate conditions like transient blood pressure increases are included in a broad definition of disease. ST sometimes causes superficial sore spots or lesions in the mouth, which some might consider a disease, although they are not life threatening or particularly harmful.

CLAIMS THAT ST CAUSES SPECIFIC CANCERS

Claims about measurable and large-sounding risks for rare diseases are an unfortunate red herring in discussions of ST’s suitability for THR. The most common claims relate to oral cancer, although authors who are familiar with the evidence agree that the evidence does not support the claims, and even anti-THR advocates who are concerned with scientific evidence now concede the point (Rodu & Cole, 2002; Rodu & Jansson, 2004; Royal College of Physicians, 2007; Scientific Committee on Emerging and Newly Identified Health Risks [SCENIHR], 2007). While anti-ST activists have tried to claim that oral cancer was increasing in young people because of ST, it was apparent to those of us who studied the science that this was implausible, and sexual transmission seemed more likely. Indeed, it has finally been widely recognized that HPV causes a substantial portion of oral cancer. But even apart from the lack of evidence of ST causing it, oral cancer is very rare in Western populations (American Cancer Society, 2007a; IARC, 2002; U.S. Department of Health and Human Services, 2000; Warnakulasuriva, 2008). Thus, even if this risk were to be increased by, say, 50%, it would represent very low total risk. This usually comes as a complete surprise to nonexperts, including most clinicians, public health officials, and educators, who incorrectly believe they are knowledgeable about disease risks. More important, despite most nonexperts’ beliefs that the scientific evidence shows a substantially increased risk of oral cancer among ST users, the evidence shows that even a 50% increase in risk is

not consistent with the evidence. While the risk is not necessarily zero, it is so small as to be undetectable, while a 50% increase could reliably be detected.

For a few years, after it became clear that claims of a substantial risk for oral cancer were insupportable, it became fashionable for anti-THR activists to claim that ST causes a substantial risk for pancreatic cancer. This claim is based on less evidence than the now-discredited claims about oral cancer were originally based on, and the data was clearly interpreted in a biased fashion to exaggerate the association (Heavner, Heffernan, et al., 2008; Phillips, 2006a; Sponsiello-Wang, Weitkunat, & Lee, 2008). These claims were never plausible (Phillips, 2011d) and have been quantitatively debunked (Lee & Hamling, 2010), and a research group led the author who was primarily responsible for the disinformation finally admitted the claim was not supported (Bertuccio et al., 2010), although without apologizing for creating the junk science claim in the first place and trying to spin it as if they had just discovered what the experts on the topic had known all along. (When studying this topic it is important to distinguish the existence of *disinformation* from mere *misinformation*. The former refers to claims that appear to be intentionally designed to cause the audience to believe something false, made by someone who knows that it is false. The latter refers to false information or belief itself, without reference to why it exists.) But, again, even if the worst-case relative risk claims had been accurate, the total absolute risk is small because the baseline risk is quite low, and so would represent low risk compared to the total risk from smoking.

THE REDUCTION IN HEALTH RISKS IS CLEAR

Disentangling all the biases and misleading interpretations that litter the research is beyond the present scope, but fortunately it is not necessary. Nor is it necessary to resolve the genuine uncertainty about the exact magnitude of the actual risks of non-smoked nicotine products. There is ample evidence that the risks are very small compared to the risks from smoking, and no one with any scientific credibility claims otherwise.

While many readers might find it surprising that the reduction in risk is so great, it is not actually difficult to verify most of the reduction based on casual knowledge. About half the disease risk attributed to smoking comes from lung diseases that no one claims are caused by ST use. Most of the rest of the risk comes from cardiovascular diseases, and even the worst plausible case puts the risk for these at a small fraction of that from smoking. Thus, even without delving into the details of rarer diseases, it is clear that the vast majority of risk is eliminated.

In addition, the use of ST and other noncombustion sources of nicotine eliminate the harm that users impose on others. This includes eliminating

the health risks from second-hand smoke and fires, as well as the aesthetic impact of smoke. Because it eliminates all the costs to innocent bystanders, THR is the perfect solution for those who believe in the rights of individuals to make their own health-affecting decisions but want to protect other people from the negative externalities from smoking.

TOXICOLOGY AS A DISTRACTION FROM THE WEALTH OF EPIDEMIOLOGICAL EVIDENCE

Some confusion about the risks from ST has been created by activists who publicize the limited evidence provided by studies of “toxins” or “carcinogens” and exaggerate their application to actual disease risks (e.g., Hecht et al., 2007; Stepanov, Jensen, Hatsukami, & Hecht, 2008). As with any plant matter (e.g., dietary fruits and vegetables), tobacco contains thousands of chemicals, some of which (when removed from their context and concentrated in huge doses) have been shown to cause cancer and other diseases in laboratory experiments on cells or nonhuman animals. A few chemicals that are believed to be harmful are found in tobacco in much greater quantities than in other plants (the previously mentioned nitrosamines). ST users may receive higher doses of some of these chemicals than smokers. But anyone familiar with health science will recognize that because the epidemiology fails to show actual human health risk from ST, it must be that these chemicals in the form and concentrations found in ST do not cause measurable levels of disease, whatever they might do under artificial laboratory conditions.

Recognizing the limited relevance of toxicology when there is ample epidemiology requires only common sense: if a particular chemical that entered the body due to an exposure caused disease to a substantial degree, then the exposure would cause that disease to a substantial degree. If the epidemiology shows no measurable disease risk, then the particular chemical is not causing measurable disease risk in that particular form, concentration, and context. Studies of chemistry or laboratory exposures are sometimes useful in helping us guess what health impact something might have when we do not have actual epidemiology, or in exploring the possible mechanisms involved in an effect that has already been determined. However, the practice of reporting to the public what *might* happen when we already know what *actually does* happen is obviously misleading (Phillips, 2011e).

Toxicology can also be used to distract in cases where there is no epidemiology, as evidenced by the U.S. Food and Drug Administration’s “study” of e-cigarettes, which found measureable levels of nitrosamines, orders of magnitude less than the concentrations that do not cause measurable risk for cancer from smokeless tobacco. The FDA aggressively publicized the

mere existence of these chemicals as if it implied there was risk from these chemicals, although surely they knew better (it was not intended be proper science so much as part of a litigation strategy in the case, mentioned below, preventing them from banning e-cigarettes), and it has become the excuse used by those calling for e-cigarette bans.

REDESIGN OF CIGARETTES AND ITS POTENTIAL TO MISLEAD

Attempts to make cigarettes less hazardous have a mixed history in terms of health, politics, and rhetoric (Parker-Pope, 2001). Some changes have clearly offered health improvements, while others have failed. One particular failure to improve the health impact of cigarettes was the introduction of so-called “light” cigarettes. In that case, it was assumed that there would be health improvements even though there was no epidemiology to support this claim. The result, lack of any substantial health benefit, is often cited by THR opponents as showing that harm reduction efforts are a bad idea and that only further measures to promote abstinence should be attempted. This claim is so patently illogical it must be assumed that no one really believes it and that it is merely a rhetorical ploy. It seems largely tied to the simple psychological motive of embarrassment: the public health advocates who pushed for modified cigarettes did a terrible disservice to public health, and they have tried to rewrite both history (falsely blaming the industry for being the driving force behind the redesigns and trying to cover up their leading role) and scientific reasoning. But there is a real lesson from public health authorities’ mistake in endorsing light cigarettes: Do not be too optimistic about unproven health interventions. This suggests that THR based on proven low-risk products is a much better idea than counting on speculative ways to achieve global abstinence or on such redesigns as “reduced toxicant” cigarettes that may or may not offer substantial reductions in risk. But there is also a more direct lesson from the experience: Smokers are interested in switching to products they think are lower risk.

Minor variations on cigarettes that still consist of burning tobacco ought to be able to reduce risks somewhat by, for example, lowering carbon monoxide levels or reducing the number of atoms of heavy metals or other smoke components that are hypothesized to be particularly unhealthy. This approach has been pushed by the World Health Organization (Burns et al, 2008) and seems to currently be in favor with the U.S. Food and Drug Administration, even as those organizations fiercely oppose genuinely low-risk substitutes. If the choice is simply whether or not to implement these changes, obviously a bit less harmful is better, but such changes should not be seen as substitutes for a radical change to noncombustion products.

Moreover, given widespread failure to understand risk quantification, it seems reasonably likely that many consumers will confuse the small speculative risk reduction from these changes (akin to public health advocates' speculative expectations about light cigarettes) with the huge proven risk reduction from noncombustion products.

ADOPTION OF THR

Scandinavia: Population-Level Evidence of the Viability and Effectiveness of THR

The viability of ST use as a smoking cessation strategy, and the predicted dramatic reduction in morbidity and mortality from nicotine use it will cause, has been demonstrated in Sweden. Snus (snuff) use in Sweden dates back almost to the introduction of tobacco in Europe and became widespread by the 19th century before declining in the mid-20th century, when cigarettes became popular in Sweden and throughout the West. During its decline, snuff use remained most common among older male farmers, fishermen, and lumberjacks but it regained popularity throughout the male population starting about 40 years ago and among females more recently (Furberg, Lichtenstein, Pedersen, Bulik, & Sullivan, 2006; Nordgren & Ramström, 1990; Stegmayr et al., 2005). The repopularizing of snus is generally attributed to sociopolitical factors rather than recognition of the benefits of THR.

But the THR benefits did occur and then became recognized. Now more men use snus than smoke, and smoking prevalence is well below that of men in the Western countries with the most aggressive abstinence promotion policies. Snus use rates have been increasing and smoking rates have been decreasing among both Swedish males and females, and many of the snus users switched from smoking (see, e.g., Patja, Hakala, Bostrom, Nordgren, & Hagund, 2009). Smoking is still the most common form of tobacco use among Swedish females, although the trends are promising (Stegmayr et al., 2005). Sweden is the only population where smoking became well established but dropped to substantially less than 20% prevalence among adult males. As a result, Sweden has the lowest rates of tobacco-related (i.e., smoking-caused) mortality in Europe (Heavner, Phillips, et al., 2009; Rodu & Cole, 2004, 2009).

There is also a long history of snus use in Norway, where snus use has been increasing and is now common among males (Kraft & Svendsen, 1997; Wiium et al., 2009). There is evidence of a transition from smoking to snus use among men since, like in Sweden, snus use increased as smoking prevalence decreased from the mid-1980s to 2006 (Directorate of Health and Social Affairs, 2007; Lund, 2009; Lund et al., 2010).

United States: History of Niche Popularity and a Promising Future for THR

Outside of Scandinavia, the United States is the country where modern Western ST products are the most popular. Like Sweden, North America has a centuries-old tradition of ST use (it predates European arrival). In the United States, ST was the most popular method of tobacco use before cigarettes became a mass-produced commodity. By the mid-20th century, ST usage was largely limited to niche markets, particularly among rural males, although popularity increased toward the end of the century. Less than 5% of the adult population used ST at the beginning of the 21st century, which is far less popular than smoking, but still represents many users.

The United States has had among the most aggressive anti-smoking campaigns, including education, legal restrictions, high taxes, and other measures. The education and taxes are probably why smoking rates are among the lowest in the West, roughly 20–25% of the adult population, depending on which statistics are used (Centers for Disease Control and Prevention [CDC], 2008; Substance Abuse and Mental Health Services Administration [SAMHSA], 2006). Yet this still represents substantial popularity of nicotine use, making clear the value of THR. There is evidence of American men switching to ST as a method for quitting smoking and hints that it is more effective than using cessation pharmaceuticals (Rodu & Phillips, 2008), and it appears that physicians (Nitzkin & Rodu, 2008), scientists, and consumers are increasingly recognizing this, although governments and many other organizations still oppose it.

The United States, long home to the largest ST manufacturer and the biggest market, has recently been flooded by new ST product lines from several manufacturers. These are typically marketed as “snus,” and often with some limited and subtle THR messages. The two major cigarette makers introduced snus products marketed under their leading cigarette brands, and one of them is introducing a variety of dissolvable ST products. Increased public awareness of the availability of ST products likely occurred as a result of popular press coverage of the introductions of new products, although the coverage was dominated by attacks on these substitutes for smoking by ostensible “anti-smoking” activists (e.g., Landler & Martin, 2007). Widespread adoption of THR in the United States would likely be followed by implementation of policies to encourage THR in other countries. Unfortunately, as discussed below, there is a concerted effort to keep Americans (and others) from learning about the benefits of THR.

Electronic cigarettes have also generated a dedicated following of vapers and may represent the biggest breakthrough in smoking cessation since the public became educated about the health risks. At the time of this writing, there were no good statistics on prevalence, and total market penetration appears modest. But many consumers have become fanatical proponents of

the new products, and anecdotes suggest that perhaps half of all smokers who make a serious effort to appreciate them find e-cigarettes to be satisfying. They appear to be more effective than any other smoking cessation aid, although their very different role compared to other products—as a pleasurable substitute with a unique set of appeals, like smokeless tobacco rather than a medicine designed only to promote cessation—makes a direct comparison difficult and arguably inappropriate. Indeed, e-cigarettes are typically described as an alternative to smoking rather than a way of stopping smoking, which is primarily a legalistic tactic and arguably a distinction without a difference, but it does illustrate the difficulty of direct comparison.

Unfortunately, there are indications that more governments may ban e-cigarettes and construct high hurdles for their reintroduction, as some already have. Bans are already in place in several countries, although a recent judicial reversal of an attempted *de facto* ban in the United States means that one large market will remain legal indefinitely, and a ruling in the United Kingdom has largely ensured that e-cigarettes will remain legal at least into 2012. The U.S. decision in particular almost guarantees that extremists' goal of stopping the growing popularity of vaping before it reaches a self-sustaining critical mass will fail. Indeed, the strength of the user community and do-it-yourself technology have advanced sufficiently that it is unlikely that prohibition could cause dedicated vapers to stop; indeed, it would require a "scheduled substance" ban on the sale of nicotine to make prohibition binding since there is no practical way to ban the devices. However, even ineffective prohibitions will still tend to encourage continued smoking, dooming potential switchers and those not fully committed to vaping who depend on convenient ready-made products, and perhaps forcing dedicated vapers to smoke when in public.

The pressure for THR in the United States seems to be growing. Although there is arguably no more scientific basis for supporting THR than there was 15 years ago, the sociopolitical window of opportunity has opened wider. There is an active campaign against the disinformation that prevented consumers from learning about THR, and active promotion of THR in online writing and several major news sources. The popularity of e-cigarettes dramatically increased the grassroots support for THR. While there is a constant flow of regulatory proposals aimed at derailing specific THR efforts, it will be difficult to dis-educate an increasingly informed public.

Hurdles to THR Elsewhere

Unfortunately, outside of Scandinavia and the United States, there has been little tendency toward THR. Smokeless products that include tobacco have a long history elsewhere, particularly in parts of Asia and Africa, though

these are not so clearly low-risk as Western products, and switching trends seem more toward smoking.

Anti-THR efforts are directly responsible for the lack of harm reduction in non-Scandinavian Europe. Due to a restriction enacted in 1992, the European Union actually bans the sale of snus-style ST products. Sweden demanded and received an exception to this rule when it joined the European Union, and Norway is not a member of the European Union. However, smoking is legal and quite popular, with more than 30% of adults in most European Union countries being smokers (Eurostat, 2011). This bizarre combination of banning low-risk forms of tobacco (which are sufficiently attractive to many nicotine users that there is a substantial gray market in Swedish products) while allowing the high-risk form is possibly the most costly anti-public health regulation that exists in the world today. Although there is a growing constituency that favors eliminating the ban, even beyond the vocal supporters of THR (e.g., Bates et al., 2003; Royal College of Physicians, 2008), the conventional wisdom is that a removal of the ban is several years away at best. (Recently, the European Union requested comments on their Tobacco Products Directive, in consideration of revising the ban; however, it is yet to be seen whether they will actually lift it. See Phillips, Heavner, Bergen, & Nissen, 2010, for comments submitted by the authors with respect to this.) For now, e-cigarettes are legal in most of Europe and have gained substantial popularity in the United Kingdom.

Similarly, New Zealand and Australia have forms of oral ST bans, and there is a trend toward bans of e-cigarettes, although, again, cigarettes remain legal, widely available, and popular. There is some limited interest in changing this, but no specific signs of progress (Gartner et al., 2007; Laugesen, 2007). However, since these governments are much smaller and thus more responsive than the European Union's, the situation could change much more rapidly.

Canada, like the United States, has a history of ST use in small niche markets, particularly in the rural west. In 2007 Canada's major cigarette company began test marketing a snus product under its premium cigarette brand name, explicitly marketing it as a reduced-harm alternative to cigarettes, an approach that had not been previously used in North America (Bennett, Heavner, & Phillips, 2008; Heavner, Hu, & Phillips, 2011). ST products were already widely available in Canada, but not marketed in this way. There was evidence that smokers in the test market (Edmonton, where the authors of this chapter have conducted much of their research) were quite interested in trying low-risk nicotine products (Geertsema et al., 2010; Heavner, Rosenberg, & Phillips, 2009). It appeared that Canada might emerge as a leader in THR. However, a concerted anti-THR mobilization seems to have ended this hope. For example, when the research group that includes the authors of this chapter started promoting THR

locally, the local anti-tobacco activists (including the local government and even groups whose supposed mission was explicitly anti-smoking or even anti-secondhand smoke) shifted most of their emphasis to being anti-ST and anti-harm reduction rather than anti-smoking and to trying to shut down THR advocacy (Libin, 2007, 2009; Phillips, 2007b, 2008, 2011b).

Canada also lacks free-speech protections, and there are severe restrictions on communicating the truth about tobacco products. Strictly speaking, it appears to be a criminal offense to advocate ST-based THR (e.g., to write this paper), although this has never been enforced. Substantial restrictions on the free speech of marketers are enforced, however, making it almost impossible to educate smokers about the availability of low-risk options. Shortly after the new snus product was introduced in Edmonton, the province changed its regulations to prevent retailers from displaying the product or educational material about it, or otherwise communicating about the product, effectively locking in the market, protecting cigarettes from competition by the new low-risk alternative (Heavner et al., 2011). The national government then tripled the taxes on snus, and threatens to impose further restrictions that reduce ST's competitiveness with cigarettes. Most recently, the national government banned the importation and sale of e-cigarettes, effectively telling the many smokers who had switched to them that they should switch back to cigarettes. While, like New Zealand and Australia, the Canadian government could change its policies rapidly, it seems intent on competing with Australia to have the most extreme anti-smoking, anti-nicotine, and anti-THR policies. Thus, Canada will probably stop fighting THR only after it has already definitively succeeded in the United States or United Kingdom.

In the non-Western world the barriers to THR are more socioeconomic and lack of interest than anti-public health actions by governments or activists. India has a long tradition of oral dip products that contain tobacco and other major ingredients. These are very inexpensive and widely used, almost exclusively by the poor. The scientific evidence about these products is generally of low quality, but it appears that they cause substantially greater health risk than ST, though still much less than smoking. Influential actors in India have launched a campaign to curtail or even ban the use of these products. In a richer country, a similar action would be an anti-THR effort, driving many users to switch to smoking, though many in India cannot afford cigarettes, so it is not clear what will happen. In any case, there are no apparent pro-THR efforts in India, which could consist of trying to migrate either smokers or users of these other products to ST or another low-risk alternative. Attempts to introduce snus-style products in Japan and South Africa have been largely unsuccessful, apparently largely due to the difficulty of marketing a product line unlike anything used locally, or perhaps also due to some poor choices in design

and marketing strategy. A new product that was a brief sensation in Japan is basically smokeless tobacco in a cigarette-like form that mimics smoking (Rodu, 2010), but probably does not deliver much nicotine, and thus had little chance of becoming popular. However, government did nothing to support these efforts and indeed was part of the problem, requiring snus to have the same warnings as cigarette packaging, perpetuating the common myth that snus poses high risks. Regulations also forbade communication to potential consumers about harm reduction (University of Stellenbosch Business School, 2006).

Electronic cigarettes were invented and originally sold in China, the global leader in smoking. It is not yet clear how popular they will become there, although the market potential is enormous, and while there was some talk of a ban (generally attributed to the government protecting its profits from the sale of cigarettes, which may explain anti-e-cigarette efforts in U.S. states also) that does not seem to be moving forward. Elsewhere there is a race to see whether e-cigarettes will become popular enough that they will be difficult to ban. If the race swings toward THR in Europe, it is possible they will fill the potential market niche for snus, making the ban on the latter moot and inspiring a worldwide shift. Bans will presumably temporarily close some populations out of the e-cigarette market until they become so popular elsewhere that localized bans become unenforceable due to do-it-yourself knowledge and guerrilla-marketed products.

THE POLITICS OF THR

The above is intended to describe the potential for and reality of THR with minimal reference to the politics and disinformation that surrounds the issue (although the dominance of politics and misinformation makes complete separation difficult). To fully understand THR requires answering the question: “Why does such a promising public health intervention have such strong opposition, and why do so few people even know about it?”

The first thing that is necessary to understand is that many people and organizations in the enormous and rich anti-tobacco industry are not so much pro-health as merely anti-tobacco. Once this fact is recognized it becomes clear that the apparent paradox of the “public health community” being opposed to improving public health by reducing the harm from a popular behavior arises due to the mistaken belief that the anti-tobacco industry is part of the public health community. But because that industry (a useful word for emphasizing the enormous budgets and institutionalization of the anti-tobacco organizations, as well as their influence over government) is so powerful, they have substantially overshadowed or subverted actual public health advocacy. Several years ago, out of frustration with phrases like “harm reduction versus public health,”

we realized the need for a term to distinguish the true public health anti-smoking activists, who are concerned about health and thus favor THR, from those who oppose tobacco or nicotine use without regard to health consequences. We coined the label “anti-tobacco extremists” or “anti-nicotine extremists” to identify activists who favor the elimination of all tobacco use and e-cigarettes (their attitudes toward the pharmaceutical industry vary) regardless of health or welfare effects; the phrase is a simple descriptive, reflecting the fact that this is the most extreme possible anti-tobacco goal.

The limited resistance by the public health community to anti-tobacco extremists’ anti-THR activism is partially explained by political tendencies that trace to the origins of the public health movement in North America and parts of Europe. Although the public health movement can partially be traced to medicine and other health interests, a major force was the “purity”-based social movements that were directed at modifying people’s behaviors, largely through forceful paternalistic means. Modern examples of this can be found in many subpopulations, as well as “nanny state” policies and the drug war. While there is often a strong overlap between purifying “sinful” behavior and improving people’s health, and more so many decades ago when hygiene was poorer, health concerns are often just a stalking horse for attempts to purify people’s minds and bodies. Vilifying particular food and drink as sinful had its zenith in U.S. alcohol prohibition, but it remains common today. The emphasis on purity, rather than human welfare or even health, is evident in the anti-smoking (and other anti-tobacco, anti-nicotine, and anti-drug) rhetoric that focuses more on the product use being dirty or somehow sinful, rather than it being biologically unhealthy.

Purity movements often condemn any substance use or dependence (chemical or otherwise) as a moral failing or even a disease, regardless of actual health effects. Smokers, heroin users, teenagers who have sex, and other groups are treated as sinners who need to be purified rather than as welfare-maximizing consumers whose lives could be improved by offering ways to lower the costs of their behavior. This explains why addiction itself—when it relates to a short list of disfavored substances or behaviors—is called a disease. Even setting aside the fact that addiction defies clear scientific definition, it does not fit any normal definition of disease (Peele, 1990). The substance of addiction may cause negative health outcomes, particularly when it is marginalized and harm reduction is avoided, but the propensity itself is not a negative health outcome. This is similar to the way that same-sex attraction was classified as a disease until recently, and the analogy is telling: If addiction (or same-sex attraction) rather than lung cancer (or HIV) is seen as the disease of interest, and moreover a moral failing that needs to be purified, then the argument against smoking (same-sex attraction) has little to do with the morbidity

and mortality it causes. In that case, merely minimizing the consequences via THR (or condoms and education) is not a substitute for purifying the world of tobacco (or homosexuality).

A second explanation for the disconnect between anti-tobacco extremism and health stems from the socially accepted vilification of corporations. Until recently, this reference to vilification would be specific to tobacco companies, but the e-cigarette industry, made up of companies that have never been in the tobacco business, has been similarly vilified by anti-nicotine extremists. Anti-tobacco extremists often condemn attempts to market safer nicotine products as ways to encourage and maintain nicotine use and make money (which is obviously true, but not relevant to public health) that offer no benefit (which is true if and only if one is concerned about purity and addiction rather than welfare or health). This attitude is particularly costly since the tobacco and e-cigarette industries are currently far ahead of the public health community and pharmaceutical industry in assessing and promoting THR, and will be responsible for huge reductions in disease if these products become popular. If public health advocates were to support industry efforts (including encouraging pharmaceutical companies to investigate long-term usage of their products) rather than yielding to the extremists' demands to fight them, we would be much closer to widespread adoption of THR, saving countless lives.

Animosity toward the industry is often attributed to past corporate behavior, but this clearly is either not the full explanation or is based on gross irrationality. The oft-cited bad behaviors were primarily committed by cigarette companies decades ago, and yet anti-corporate bias makes no exceptions for companies that make ST and not cigarettes, companies that sell only e-cigarettes and not tobacco, and companies that did not exist at the time of the worst offenses. Moreover, even with regard to the major cigarette companies, it obviously makes little sense to impose a "sins of the father" punishment on, or even to simply despise, an abstract entity whose shareholders, leaders, and employees have almost completely turned over since it committed most of the acts that are considered to warrant punishment. A partial explanation for the irrationality might be the general anti-big-corporation bias of some political activists, although because some targeted companies are not large, and because the bias does not generally extend to pharmaceutical companies, this explanation also falls short.

Arguably the anti-industry animosity is a byproduct of the general vilification campaign against smokers, nicotine users, manufacturers, and even the tobacco plant itself. The vilification campaign is actively and openly promoted by anti-tobacco extremists (e.g., Chapman & Freeman, 2008), although under the euphemism "denormalization" to try to make it sound less like a pogrom. Denormalization and demonization is based

on the idea that tobacco, nicotine consumers, and tobacco companies are fundamentally different from other plants, consumers, and industries, and that steps need to be taken to convince everyone of that by changing their social and legal status.

Perhaps the most compelling explanation for the animosity to the industry is that it provides some relief from the cognitive dissonance that results from “knowing” you are doing everything right but observing that you are failing. It appears that most anti-tobacco activists (extremist and otherwise) genuinely believe, despite all evidence to the contrary, that the actions they are advocating will eliminate the demand for nicotine (or merely smoking for the nonextremists) and that the world will embrace the elimination of tobacco. The expectation results from obviously erroneous beliefs. When someone has an unshakable belief that smoking has no benefits, then rational cost-benefit analysis cannot explain the choice to smoke. If one assumes everyone wants to maximize their longevity at whatever cost, then it is difficult to explain how education about the risks from smoking does not cause everyone to quit. If it is assumed that higher taxes will result only in decreased consumption, it might be difficult to recognize that smuggling and more efficient smoking are obvious rational responses. Most important, the assumptions that every smoker really wants to quit, and various tools make quitting easy, mean that it cannot be the case that about one-fifth of the population chooses to keep smoking. When the reality of persistent tobacco use contradicts these hypotheses, revising the underlying assumptions would be rational. But when the assumptions are unshakeable articles of faith, relief from the dissonance can be found in declaring that the predicted outcomes were thwarted by the evil actions of some extremely savvy and effective opponents. The tobacco industry is the usual target, although nonindustry advocates of THR and any researchers whose analyses point out errors in the anti-tobacco conventional wisdom are also targets of this frustrated fury (Enstrom, 2007; Libin, 2007; Phillips, 2007b; Siegel, 2007).

Anti-tobacco extremists are likely disturbed by the reasonable expectation that when people learn that there are low-risk ways to consume nicotine and tobacco, then the incentive for abstinence will be tremendously diminished. Similarly, political activists who are primarily focused on the vilification (and elimination) of tobacco companies realize that the companies will thrive if they can switch to low-risk products that consumers will be less motivated to quit using. Successful promotion of THR would probably guarantee that tobacco companies will not be driven out of business for the foreseeable future and elimination of self-administration of nicotine will not be realized. The health costs of smoking will be hugely reduced, but not due to the success of the anti-tobacco industry. Rather, the accomplishment will come despite the efforts to which many activists

devoted their careers. Thus, it is not difficult to understand why this generates hostility toward THR efforts.

The profound disconnect between the anti-tobacco industry and actual promotion of public health goals is so difficult for many observers to understand that they grant the anti-tobacco activists the benefit of every doubt. This makes it easy for the activists to obscure their real motives with disinformation.

Misinformation and Disinformation

The great potential for THR has been discussed for decades, has been clear beyond a doubt for at least 15 years, and is now universally known by anyone with real expertise in tobacco science or policy. This makes it especially remarkable that there is a near-universal lack of knowledge about the potential for THR beyond a small community of experts and a growing but small grassroots activist movement. The ignorance extends beyond the lay public to include most clinicians, health policymakers, and even many health researchers. What is worse, most of them are very confident in their false beliefs. Surveys show that the vast majority of the public thinks that ST is at least as harmful as smoking (Broome County Health Department, 2006; Geertsema et al., 2010; Health Canada, 2006; Indiana Tobacco Prevention and Cessation, 2004; O'Connor et al., 2005; Smith, Curbow, & Stillman, 2007), and the limited data on health professionals show almost as much ignorance (Borrelli & Novak, 2007; Peiper, Stone, Van Zyl, & Rodu, 2010; Prokhorov et al., 2002).

Those of us who educate about THR can confirm these results based on experience. Although most consumers and clinicians who are genuinely concerned about health and capable of recognizing accurate information can be educated in a fairly short conversation, the conversation always contains a moment of stunned surprise. The typical conversation (with lay people, professors of public health, or others) follows the pattern "Really, it is not as bad as smoking?", "No, not even close," "What about mouth cancer?" The last question is typical of even those who should know that even a high relative risk for oral cancer from ST use would result in a trivial absolute risk compared to smoking. The assertion that ST does not cause lung disease and so cannot possibly be as bad as smoking is usually followed by a surprised expression, then immediate acceptance of this obvious fact. The almost universal failure to make this obvious observation without prompting is a tribute to the effectiveness of the disinformation campaign. The disinformation has been so effective that even though many of the organizations and individuals who are attempting to mislead people about THR favor the use of pharmaceutical nicotine, they have managed to convince smokers that those products are at least as hazardous as smoking (Shiffman, Ferguson, Rohay, & Gitchell, 2008).

To fully appreciate the magnitude and importance of this deception and ignorance, it is necessary to remind ourselves that this is not a matter of some rare and obscure behavior—smoking is usually seen as the most important public health issue in rich countries. Nor is there any genuine scientific doubt about the huge differences in risks. Failure to understand that alternative sources of nicotine are orders of magnitude less harmful than smoking is akin to believing that wearing a seat belt is more dangerous than not, or that common vaccines are more dangerous than they are beneficial. Granted, a few people actually believe the former of these, and many lay people believe the latter, but these are generally seen as cases of unforgivable ignorance, and a health professional making such a claim would be guilty of malpractice. But a comparably absurd—and probably more costly—misunderstanding exists for THR, and clinicians and opinion leaders are guilty of actively perpetuating it.

Part of the confusion stems from the aforementioned conflation of smoking, tobacco, and nicotine, which is sometimes done innocently (although still quite inaccurately) as a shorthand. Some of the confusion stems from the tendency of most people to think of a health exposure as merely good or bad, without understanding that some “bad” exposures cause trivial risk while others are many times worse. But ultimately, such a major and important error can only exist with the complacency of the subject matter experts. In this case, there is not merely complacency but complicity in an active campaign to mislead.

Several studies (e.g., Boehm, 2005; Heavner, Phillips, & Bergen, 2008; Kozlowski & O'Connor, 2003; Phillips, Bergen, & Guenzel, 2006; Phillips et al., 2005; Waterbor et al., 2004) have documented the claims made by the anti-tobacco industry that are designed to convince consumers, clinicians, and policymakers that ST is roughly as hazardous as smoking. Even a casual observation of “educational” materials about ST and other alternative sources of nicotine reveals that anti-tobacco (or anti-nicotine or anti-drug) extremists are trying to obscure the known differences in risk between smoking and noncombustion exposures. The claims range from outright lies about the risks from ST, to conflation of all types of tobacco, to trying to take advantage of scientific ignorance with impressive-sounding but ultimately meaningless technical claims (for examples, see the papers cited at the beginning of this paragraph). The latter tactics include a wide variety of claims based on toxicology, such as pointing out that ST contains various chemicals that (under particular laboratory circumstances and in very high concentrations) are “carcinogens” or “toxins.” This takes advantage of the widespread public fear of “chemicals” (Nissen, 2010), and the lack of understanding that thousands of chemicals can be found in all plants, that low dose exposures do not have the same effects as high doses, and that epidemiology trumps toxicology. Experts in other areas of harm reduction and the drug war might find a familiarity with the anti-tobacco

tactics and “Reefer Madness”-style campaigns or the attempts to convince teenagers that using condoms is a bad idea.

What passes for scientific studies is often little better than broadsides that are aimed at laypeople. The anti-tobacco extremists’ control over most scientific research, funding, and publication in the field, as well as the inherent weaknesses of analytic methods in public health science (see, e.g., Phillips, 2003, 2004, 2007b, 2008), mean that almost any study can be construed to show that tobacco or nicotine use is unhealthy, and most any report that draws that conclusion will be published no matter how low the quality or absurd the conclusions.

To cite one recent example, a study by a major anti-tobacco advocacy group, the American Cancer Society (ACS), found that switching from smoking to ST is extremely beneficial (Henley et al., 2007). This article, based on the same large cohort study that produces some of the most quoted statistics about the effects of smoking, provided some of the best evidence for the value of THR ever produced. But the ACS chose to completely obscure this finding by avoiding making the obvious comparison of the health outcomes of those who switched from cigarettes to ST to those who continued to smoke. Instead, they only compared those who switched to those who quit using nicotine entirely, claiming (incorrectly, it turns out) that their results showed that switching was worse than quitting entirely. The ACS (2007b) then made statements to try to convince the popular press that they had shown that THR was a bad idea. This propaganda was so effective that some press reports actually told smokers that it was better to continue to smoke than to switch to ST (e.g., Spangler, 2007). ACS appears to have made no attempt to correct this misconception. (Readers interested in understanding what the study actually showed and what the public should have been told can refer to our mock press release about it; Phillips, 2007a.)

Another recent study by anti-tobacco activists (Hecht et al., 2007) examined the urine of ST users and smokers and found that the ST users’ urine had greater concentrations of a few particular chemicals suspected to cause some small risk of cancer, although there is no human data to directly support this in general, let alone to estimate whether the dosages in question matter. This study, obviously far too limited and technical to be useful to the public, was nevertheless actively touted to the popular press as showing that ST use was harmful, even though it actually provided absolutely no information about health outcomes. Again, the propaganda was effective, and the press were misled into reporting that the study showed that ST was more harmful than smoking (e.g., American Association for Cancer Research, 2007; Bakalar, 2007; Fox News, 2007; *Science Daily*, 2007; Tasker, 2007).

These two examples are part of a large number of reports that claim to provide scientific evidence about the health effects of ST use that became

very common starting about 2007 and switched from being almost entirely about ST to being rather more focused on e-cigarettes starting in 2010. This followed decades during which there was relatively little interest in the topic from anyone other than ST-based THR advocates. The increased interest and the efforts to overstate the risks from ST coincide with the growing acceptance of THR and the real possibility that ST might be actively promoted as a tool for helping smokers reduce their risks. However, this does not explain the consistency of the timing and content of the message, which tend to imply an organized and concerted propaganda effort. A lot of similar correct statements appearing over a short period is likely a coincidence because the facts are the facts; a lot of similar incorrect claims that start appearing at the same time strongly suggests an organized attempt to mislead people.

It is equally interesting that there are often clear discrepancies between what researchers or organizations report in their articles (which are subject to at least some scientific scrutiny) and how they then exaggerate those findings to the press and policy community and allow others to inappropriately extrapolate. In both of the above examples, the most misleading claims were found only in press releases and other communication to the public and not the original journal articles.

More telling is that since several researchers started to document the inaccurate claims made about THR by anti-tobacco organizations, many of those organizations have changed the explicit false claims so that they are literally true but equally misleading (Phillips, Bergen, & Guenzel, 2006). One common example is that instead of saying that ST is not safer than smoking they now say it is “not a safe alternative” to smoking, a claim that communicates the same message to the casual reader, but is actually vacuous because nothing is “safe.” Such careful recrafting makes it especially clear that the authors are aware of the truth, and do not want to be caught making clearly false claims, but are still intent on misleading the public.

Efforts to prevent people from learning about THR are clear violations of the most fundamental tenet of modern health ethics, that individuals have a right to be given information so that they can make autonomous decisions about their own health (Beauchamp & Childress, 2009; Grill & Hansson, 2005; Mill, 1869; Nissen, Phillips, & Heffernan, 2010; Phillips, 2009a). The paternalism and extremism that dominate nicotine and tobacco policy result in both deadly consequences and a fundamental violation of human rights. Because of misplaced trust, this disinformation campaign has been hugely successful in intentionally misleading people.

Since information is the key to reducing the needless harm from using a deadly delivery system for a beneficial and relatively innocuous drug, the disinformation has been very effective at killing people. Fortunately, this may finally be starting to change.

THE FUTURE OF THR

Despite the obstacles of widespread ignorance of critical facts and active opposition by the rich and powerful anti-tobacco industry, widespread adoption of THR seems inevitable. Good ideas do not remain secret forever, and smokers are interested in low-risk alternatives to cigarettes. The real question is how many more people will die from smoking before they are allowed to learn about the alternatives.

Some pro-THR advocates have focused on trying to convince the anti-tobacco industry to endorse THR. The premise is that anti-tobacco activists are primarily pro-health (or even pro-welfare) and will change their minds in response to scientific support for the value of THR. While this is certainly true for some individuals, there is little reason for being so optimistic about the leadership and official positions of the major anti-tobacco organizations. Because most discourse on the subject repeats the claims of these dominant actors, it is very frustrating to try to educate the public, health care providers, and policymakers without changing those organizations' behavior. But the arguments in favor of THR have been well known for years, so there is little reason to believe that educating these opinion leaders will change their behavior. Indeed, as support for THR has increased, the extremists have hardened their anti-THR position. Thus, it is difficult to imagine what, other than cohort replacement, will change the extremist organizations' opposition.

A more promising strategy can be found in taking advantage of the plurality of voices in free societies, gaining the active support of respected organizations that are genuinely pro-health and not beholden to the anti-tobacco industry. Several such organizations have come out in favor of THR, providing adequate political cover for those who require such endorsement before supporting THR. Britain's Royal College of Physicians issued a report (Royal College of Physicians, 2008) that actively supported THR, and the American Association of Public Health Physicians also endorsed THR (Nitzkin & Rodu, 2008). The European Commission's Scientific Committee on Emerging and Newly Identified Health Risks reported on the benefits of THR, and thus the harm caused by the European Union ban (SCENIHR, 2007), although someone who read only the political documents surrounding the actual scientific report, and not the report itself, might not have noticed that this was the message. Unfortunately, an organization-based approach also has important limits. Most organizations and opinion leaders who have actively advocated THR have retreated from this position, usually in conjunction with joining alliances of or receiving funding from anti-tobacco extremists. (Note, however, that to our knowledge, not one of them has recanted their previous pro-THR statements; they just stopped making them or started making statements that were equivocal to the point of being mis-

leading. This offers reassurance that no one has actually come to believe that there is some error in pro-THR reasoning, just that it was personally costly to pursue the matter.) Because extremists control almost all of the funding for research and education about nicotine products, and aggressively enforce orthodoxy and punish any disapproved claims, only the rare organization or individual in the field who does not depend on such funding does not feel the pressure.

Most important, consumers can learn the truth without anyone granting them permission to do so. They are immune to the politics of money and power, and many are motivated to sort through the information, and they can succeed at that so long as someone is providing accurate information and educating readers about how to distinguish it from the disinformation. The combination of free speech, easy legal access to products, and an extremely compelling message make it inevitable that educated people will eventually get the message and lead the way for others. Smokers who learn about the potential of THR can adopt it themselves (unlike traditional harm reduction for other substance use, no policy action is needed unless all low-risk products are banned). Moreover, each person who is educated about THR will ratchet the progress of THR, since it is unlikely that those who spread disinformation will be able to cause anyone who has already broken through to learn the truth to unlearn it.

Where promising THR products are banned, adoption is difficult for consumers and education is also severely hindered. However, it is possible that if bans are lifted it will be sufficiently dramatic that there will be a highly teachable moment that causes rapid adoption of THR. Inadequate education and free speech may pose more of a problem. In closed societies or where there is very limited education—which includes a substantial majority of the world's population, with a majority of its smokers—there is probably little hope for major inroads until THR is established in the West. This could change if corporations with major marketing clout (be they cigarette companies marketing snus, or otherwise) promote THR in unexpected places where there is no ST tradition. Such efforts are extremely costly, but the Canadian, Japanese, and South African examples show that at least one major company has proven willing to accept the necessary losses to try to build knowledge of THR, and they might eventually find a government that is willing to help rather than hinder their efforts. The U.S. government recently took actions that suggest it will allow certain categories of low-risk tobacco products to be marketed with less commercial speech restrictions that limit accurate communication in that country, although the outpouring of optimism this generated about the future of THR might be a bit premature (Phillips, 2011f). In China, where most e-cigarettes are made, it is conceivable that manufacturers might be permitted to communicate in their domestic market the increasingly wealthy, well-read, and health-conscious population and encourage smokers to switch products; such a

change could result in a rapid acceleration of the initial reduction in smoking that took two or three decades in the West.

Indeed, e-cigarettes have changed the situation entirely, generating much more enthusiasm among switchers than ST has. Where smokers are not deprived of access to ready-made e-cigarettes, the market looks quite favorable. But because the anti-tobacco extremists who have effectively hindered the adoption of ST-based THR have turned with equal vigor to opposing this new potential source of public health gains, many smokers are being deprived. It would be an interesting irony if the Chinese government, as part of its recent talk about reducing smoking, became accepting of e-cigarettes and China became the center of informed autonomy, with more accurate information than governments are delivering in the West.

CONCLUSION

Adoption of THR seems likely to be a critical mass or tipping phenomenon (Schelling, 1978), since each adopter is likely to increase the rate of knowledge dissemination and recruitment, as well as erode the resistance that is born of ignorance. There is slow progress toward critical mass, but is there a way to accelerate the progress? Assuming that government and major health organizations remain part of the problem rather than the solution, marketing by ST and e-cigarette manufacturers that is targeted and localized enough to produce local critical mass may be the most promising alternative. Once enough people adopt THR then people will learn about THR.

It might seem surprising to describe switching as leading, rather than lagging, education about THR, but this is actually not an unusual pattern for behavior change. The leading impetus for trying e-cigarettes seems to be restrictions on smoking in bars and other venues. Others adopt smoke-free products because they are worried not about their own risk from smoking, perhaps not even knowing they are almost eliminating that risk, but about the comparatively tiny risk of second-hand smoke inflicted on those around them. THR products can serve an obvious consumer demand that has nothing to do with the user's health risks. However, knowledge often follows behavior. It is often difficult for people to internalize the message that their actions are needlessly harmful, even smokers who intellectually know the risks (i.e., people resist cognitive dissonance), but we become interested in learning once our actions have changed (i.e., people are curious about and become invested in rationalizing the actions they have chosen).

An irony can be found in the motives behind time-and-place restrictions. Such laws and regulations are almost always justified as ways to protect nonsmokers from the risks from an involuntary exposure (notwithstanding that the health risks from nonhousehold exposures to secondhand smoke are very small and bans increasingly include places where exposure

is miniscule and bystanders can easily avoid smokers). This is the only way to sell the restrictions to the public in societies that respect individual liberty. However, most anti-tobacco activists have other goals and clearly, often quite openly, argue that an intentional “benefit” of the restrictions is that they make smokers so miserable that they are more likely to quit (cf. claims about the expected reduction in risks among smokers thanks to the bans, as well as advocating forbidding not just smoking but also ST and e-cigarette use on airplanes, prisons, and other venues where people cannot step outside). But misery is the mother of invention, and so the restrictions cause invention of products and innovative consumption patterns, potentially resulting in the long-term, low-risk use of tobacco or nicotine that these same activists want to eliminate.

Were it actually that nicotine use was just the result of unwanted addiction and most smokers really preferred to be abstinent, they might thank anti-tobacco regulations for making use less appealing. As it is, smokers are being driven to the economically rational choice of obeying the regulations with minimal cost to themselves, and so are forced to reduce their health risks. Having inadvertently reduced their risk, they will soon learn they have done so, and will probably help educate others. The harm reduction philosophy usually includes an interest in not merely reducing risk but also maximizing welfare, usually by facilitating rational individual decisions. It should come as no surprise that smokers are rational actors who want to lower their costs without eliminating their benefits. When they are finally given the opportunity to do so, it will likely be the greatest public health triumph of our generation.

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CHAPTER 5



Harm Reduction and Cannabis

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We begin this chapter by acknowledging a number of characteristics unique to cannabis, both to the drug itself and to the societal context in which its use is debated when the topic of harm reduction is raised. Then, following a brief summary of the prevalence of cannabis use, we review current evidence concerning adverse health, cognitive, and behavioral effects associated with cannabis consumption.

The next section discusses interventions, both to prevent harm and to ameliorate cannabis-related problems that already have occurred. We review the outcomes of behavioral intervention trials with adults and adolescents experiencing cannabis use disorders, and tests of brief “check-up” interventions tailored for users who, while having some concerns about the effects they’re experiencing, are not committed to quitting or reducing use. A final part of this section pertains to harm reduction advice for cannabis users, including discussion of suggestions disseminated by organizations in the cannabis policy reform movement.

Cannabis control policy is the focus of the next section, with a particular emphasis on the harm reduction reasoning underlying alternate policy models. The chapter concludes with recommendations for future research. Before continuing, a caveat is in order. The charge to the authors is to consider strategies to reduce or avoid cannabis-related harm. Nonetheless, it’s

important to note that a balanced review of cannabis would acknowledge the drug's benefits (see Melamede, 2005, for a review of functions of the endocannabinoid system).

UNIQUE ISSUES ASSOCIATED WITH CANNABIS

Perhaps the greatest challenge faced when discussing cannabis and harm reduction is misinformation. For the past four decades, cannabis control policy has been the focus of considerable debate in the United States and a number of other countries. Those advocating continued prohibition (see, for example, Drug Enforcement Administration, 2006), as well as those promoting policy reform (see, for example, Zimmer & Morgan, 1997), have commonly supported their positions with a selective and sometimes inaccurate set of assertions concerning the consequences of use. Misinformed cannabis users (both recreational and medical), as well as a misinformed general public, may have widely disparate views as to just what harm potentially exists, in what circumstances, and for whom.

Second, some states have enacted medical cannabis laws as a means of bypassing barriers to the drug's medical use by its Schedule I classification under the 1970 Controlled Substances Act. Patients with written permission from a physician can avoid prosecution for cannabis possession. Nonetheless, the cannabis that patients obtain will not have been subjected to the quality control procedures of conventional pharmaceuticals. The harm reduction concept, therefore, must take into account the circumstances of a class of individuals who are vulnerable and whose use of cannabis is motivated by the goal of obtaining relief from illness rather than getting high.

Third, more so than is the case for any other illicit drug, alternative cannabis control models are not simply abstractions, but have been put into place in parts of the world (e.g., Canada, Australia, New Zealand, the Netherlands, Switzerland, Germany, Spain, Austria, Belgium, Luxembourg, Portugal, Italy, and some U.S. jurisdictions). Thus, when discussing reducing harm through penalty reduction for cannabis users, theoretically one can look to jurisdictions in which penalty reduction has been implemented and ask about the consequences. Unfortunately, there's much need for improved methodology in examining intra- or international comparisons (Pacula et al., 2005.) See also a RAND Corporation literature review, funded by the Dutch Ministry of Health, of studies of cannabis policies and outcomes in Europe (van het Loo, Hoorens, van't Hof, & Kahan, 2003).

Finally, very large numbers of people fit one or the other of two iconic and widely differing user profiles. Erich Goode introduces us to each:

Jim and Janie, both 35, are happily married, ambitious, successful professionals with two young children. They are also cannabis smokers. They light up

only on weekends, only at night, and only when their kids are asleep. Cannabis plays a recreational and fairly minor role in their lives, much as going to the movies and drinking wine with dinner do. There are many weeks when they don't indulge, and when they do, they share just one joint.

Tim is 15, a high school student doing so poorly academically that he is on the verge of dropping out. This year, he has missed nearly half his classes, and he snoozes through many of those he does attend. He lights up a joint as soon as he is awake, and he smokes four or five more joints during the day and just before he goes to bed. Tim is high just about all his waking hours: He is obsessed with weed. (2008, p. 238)

The conundrum when cannabis-related harm is discussed is how—in the face of policy debates and competing ideologies—to avoid losing sight of both of these “ends of a continuum” profiles of cannabis use consequences, and to remain aware that there are many other profiles in which users concurrently experience both benefits and problems from their use.

EPIDEMIOLOGY OF CANNABIS USE

Cannabis has long been the most commonly used illicit drug in the United States and throughout most of the world (Substance Abuse and Mental Health Services Administration, 2007; World Health Organization, 2008). According to the 2006 National Survey on Drug Use and Health, 6% of those 12 years of age and older reported cannabis use in the past month, which translates to 14.8 million current users. While this rate of use pales in comparison to that of alcohol (51%), it is twice as large as the next most used class of illicit substances (i.e., nonmedical use of prescription psychotherapeutics). Among past-year cannabis users, 12% used cannabis on 300 or more days within the past 12 months. This translates into 3.1 million using cannabis on a daily or almost daily basis over a 1-year period. Among past-month cannabis users, 34% (5.1 million) used the drug on 20 or more days in the past month. Current use rates are highest in the young adult years (i.e., 18–25; 16%) relative to younger (10%) or older (4%) age groups. These data highlight the small proportion of users who use cannabis frequently and who are most likely to be at increased risk of any cannabis-associated harms. However, they also illustrate that the majority of cannabis users use less frequently.

HARMFUL CONSEQUENCES OF CANNABIS MISUSE

As we begin this review, it's important to note that it will not include acute effects that are temporary, reversible, and—even if unwanted (e.g., the

overestimation of the duration of a given time period)—do not present the risk of harm. Just as a detailed description of physiological effects (e.g., rapid heart rate) experienced while an individual is playing tennis could, if the context were ignored, suggest the potential for harm, the typical effects experienced by the cannabis user can be understood as nonharmful in an otherwise healthy individual.

In identifying potential harms, we acknowledge that inferring causal relationships between cannabis use and various health and social outcomes is a challenge. Alternative explanations can and should be considered viable until sufficiently controlled research necessitates their being ruled out. In our opinion, our current knowledge about cannabis warrants including the harms identified in the following list as potential consequences of cannabis use. Finally, the findings we summarize here reflect varying levels of empirical support and are subject to change as new studies are conducted.

Personal Development

It is unlikely that any other potential harm is the focus of greater concern than the possibility that cannabis use contributes to disturbances in normal adolescent and young adult development. The relationship between frequent cannabis use and poorer psychosocial outcomes (e.g., lower educational attainment, greater use of other illicit drugs) in adolescents and young adults is robust (e.g., Fergusson, Horwood, & Swain-Campbell, 2002). Those who initiate use earlier are at higher risk of developing dependence (Coffey, Carlin, Lynskey, Li, & Patton, 2003; Kokkevi, Nic Gabhainn, & Spyropoulou, 2006). Recent reviews (Hall, 2006; Macleod et al., 2004) discuss the alternative explanations for these associations, including the possibilities that these outcomes stem from characteristics of the users that predate marijuana use, contact with deviant peers, or impairments caused by cannabis use. Indeed, antecedents of regular cannabis use include antisocial behavior; nonconformity, rebelliousness, feeling alienated; poor performance in school; low academic expectations; and affiliating with drug-using peers. Yet the relationship between cannabis use and poorer educational and social outcomes often persists when controlling for these common predictors. The causal effect of cannabis use on personal development is not certain, but given its acute effects on cognition it is not hard to imagine that frequent cannabis intoxication adds to the problematic trajectories of some youth.

Cognitive Function

Impairment of cognitive function has the potential of causing harm in two circumstances. The first pertains to the user who is high, is working on tasks that are important to him or her, and experiences reductions in cogni-

tive capacity that lead to increased errors in carrying out those tasks. Acute cognitive impairment may include difficulties with concentration, reduced fine motor control and coordination, prolonged reaction times, short-term memory disturbances, and increased errors in simple visual or auditory tasks that are likely the consequence of a decrease in attention (Chait & Pierri, 1989; Leweke et al., 1998; Moskowitz, Sharma, & McGlothlin, 1972). As noted above, these effects of cannabis intoxication may contribute to negative educational or occupational outcomes if the cannabis use is frequent and chronic. Furthermore, they raise concerns for those engaged in potentially dangerous activities while intoxicated. Reviews of the literature conclude that drivers who have consumed cannabis are at a modest to moderately increased risk of accidents due to cognitive and psychomotor impairments (Liguori, 2007; Turnbridge, Clark, Ward, Dye, & Berghaus, 2000).

The second circumstance involves the potential for brain damage or long-term cognitive impairment (e.g., memory and executive functioning). There is no evidence of significant structural damage to the brain from cannabis use across a number of studies (Wert & Raulin, 1986), including recent investigations using more sophisticated brain imaging technology (de Lisi et al., 2006; Tzilos et al., 2005). There are contradictory findings concerning whether cognitive impairment persists once cannabis use has ceased (Bolla, Brown, Eldreth, Tate, & Cadet, 2002; Bolla, Eldreth, Matochik, & Cadet, 2005; Fried, Watkinson, & Gray, 2005; Pope, Gruber, & Yurgelun-Todd, 2001; Solowij et al., 2002). Beginning use at an early age may influence the long-term effects on cognition, with two studies of cannabis-using adults finding that the onset of use before 16 or 17, respectively, predicted poorer performance in tasks requiring focused attention (Ehrenreich et al., 1999) and lower verbal IQ (Pope et al., 2003). Again, even when found, it is difficult to attribute the impairments to cannabis use with certainty, given the possibility that innate cognitive ability differences may exist between users and nonusers prior to initial use of cannabis or that those who began cannabis use at a younger age turned away from the academic learning experiences that were needed to acquire conventional cognitive skills.

Panic Reactions; Affective and Psychotic Disorders

Acute panic reactions and the fear of losing control may occur in the inexperienced cannabis user or when an experienced user is exposed to a higher or more potent dosage than normal for that person. Less commonly observed are recurring or long-lasting experiences of depersonalization (Hollister, 1986). Brief psychotic episodes that mimic schizophreniform disorders can occur following cannabis consumption and are generally short-lived (Mathers & Ghodse, 1992; Negrete, Knapp, Douglas, & Smith,

1986; Thornicroft, 1990). Such episodes are more likely following heavy consumption (Johns, 2001).

There is considerable evidence that cannabis use by those vulnerable to schizophrenia increases the risk of an acute episode (see Hall & Degenhardt, 2007, and Degenhardt & Hall, 2006, for reviews). In addition, patients with psychosis who continue to use cannabis are likely to experience earlier relapse to psychosis, more frequent hospitalization, and poorer psychosocial functioning than those who do not continue use (Grech, van Os, Jones, Lewis, & Murray, 2005; Linszen, Dingemans, & Lenior, 1994). Finally, there is also evidence that heavy cannabis use can be a contributing factor in the development of psychotic illness in those without such a predisposition, although conclusions concerning a causal relationship remain contentious (de Irala, Ruiz-Canela, & Martinez-Gonzalez, 2005).

There is less certain evidence as to whether cannabis use contributes to anxiety, depression, and suicide (Moore et al., 2007). While use does not appear to predict depression in adults (Harder, Morral, & Arkes, 2006), there appears to be a small but significant risk of major depression occurring in young adults who are current cannabis users (Chen, Wagner, & Anthony, 2002). Early-onset use (before the age of 15) and frequent use (at age 21) may increase the risk of both anxiety and depression in young adulthood (Hayatbakhsh et al., 2007).

Respiratory System

Heavy cannabis smokers have an elevated risk of chronic cough, chronic sputum production, wheeze, and episodes of acute bronchitis than non-smokers (Aldington et al., 2007). In addition, cannabis smokers are at an increased risk of infectious diseases such as pneumonia (Tashkin, 1999). Bronchial biopsies of cannabis smokers have detected signs of airway inflammation similar to the changes in tobacco smokers (Roth et al., 1998) and provide evidence of precancerous pathological changes suggestive of elevated risk of respiratory tract cancers (Barsky, Roth, Kleerup, Simmons, & Tashkin, 1998; Fligel et al., 1997). A recent review (Mehra, Moore, Crothers, Tetrault, & Fiellin, 2006) reaches similar conclusions regarding the respiratory risks of cannabis use despite the absence of a clear association between cannabis use and lung cancer in clinical epidemiological studies (cf. Aldington et al., 2008; Hashibe et al., 2006).

Cardiovascular System

There is some evidence that cannabis use may contribute to the development of cardiovascular disease, including heart attack and stroke. In addition, the drug may increase health risks for those who have

underlying CVD. (Jayanthi et al., 2010; Mittleman, Lewis, Maclure, Sherwood, & Muller, 2001; Mukamal, Maclure, Muller, & Mittleman, 2008).

Fetal Development

The findings from two longitudinal studies suggest subtle disturbances of cerebral development resulting in cognitive impairment in the offspring of women who used cannabis during pregnancy (Fried, Watkinson, & Gray, 2003; Richardson, Ryan, Willford, Day, & Goldschmidt, 2002). The impairment may not appear until preschool or school age. The severity and the longevity of these impairments are not yet known.

Cannabis Dependence

It is estimated that 9% of those who have used cannabis at least once met the diagnostic criteria for cannabis dependence at some point in time (Anthony, Warner, & Kessler, 1994). Among heavier users, the percentage meeting those criteria may be as high as 50% (Chen, O'Brien, & Anthony, 2005; Swift, Hall, & Copeland, 2000). It appears that the risk of cannabis dependence is elevated (one in six or seven) for users who first use the drug at a young age (Kokkevi et al., 2006; Taylor, Malone, Iacono, & McGue, 2002). Compared with adults, adolescent cannabis users qualify for the dependence diagnosis with a lower frequency and quantity of cannabis consumption (Chen, Kandel, & Davies, 1997).

The impact of cannabis dependence is most easily seen in users who seek treatment to help them quit. Most of those seeking treatment have been regular users for 15 or more years and they have noticed some problems related to their use for 8–10 years before seeking treatment. However, relatively few seem motivated by health concerns. Some experience negative social, relationship, or financial consequences, and nearly all report loss of self-control, negative self-image, and diminished productivity (Stephens, Babor, Kadden, Miller, & the Marijuana Treatment Project Research Group, 2002; Stephens, Roffman, & Simpson, 1993). Clearly, only a small subset of all cannabis users seek treatment, and they likely represent those with the most serious impairments, yet their experiences illustrate the potential for dependence and its consequences.

A cannabis withdrawal syndrome has been reported characterized by elevated levels of anger, irritability, depression, sleeping difficulty, craving, and decreased appetite. The onset of withdrawal for most symptoms is within 24 to 48 hours of abstinence, and peak effects occur between 4 and 6 days. The withdrawal syndrome lasts from 1 to 3 weeks and has been estimated to be comparable in severity to that of tobacco (Budney, Moore,

Vandrey, & Hughes, 2003; Kouri & Pope, 2000). It is not yet clear what role withdrawal phenomena play in maintaining chronic cannabis use.

TREATMENT FOR CANNABIS PROBLEMS

There are now at least 11 systematic studies of treatments for adult cannabis users (for reviews, see Budney, Roffman, Stephens, & Walker, 2007; Roffman & Stephens, 2006). Cognitive-behavioral treatment (CBT), motivational enhancement treatment (MET), and contingency management (CM) are the three therapeutic modalities most commonly studied, and all have shown some efficacy in helping dependent cannabis users achieve abstinence and reduce problems associated with use. MET, based on motivational interviewing (Miller & Rollnick, 2002), is designed to help users resolve ambivalence about making changes by supporting self-determination and by eliciting their own reasons for change. CBT focuses users on the specific situations that trigger their use of cannabis and helps them develop different ways of coping in these contexts to avoid use. CM systematically rewards the user for achieving abstinence, verified by urinalysis, using monetary or other incentives. Studies have examined these therapies alone and in various combinations, delivered in groups or individually, and in doses that range from two to 14 sessions. At this time, combining all three approaches seems to lead to the best outcomes, at least in terms of achieving abstinence. Abstinence rates 1 year after treatment are roughly 25%. Another subset of participants in these studies have substantially reduced their use with concurrent reduction in the extent of related problems.

These modest successes highlight the persistence of dependent use patterns even in those motivated to make changes. They suggest that additional improvements may come from treating cannabis dependence as a chronic disorder that needs longer-term treatment. A recent attempt at a chronic care treatment model from our research group added repeated brief therapy episodes over 2½ years to an initial four-session course of MET-CBT (Stephens et al., 2006). However, relatively few participants took advantage of the additional sessions despite ongoing dependent use. Overall outcomes after 3 years were no better than those achieved with a standard nine-session intervention. Additional research with variations on the chronic care theme may be needed to improve treatment outcomes.

MET and CBT treatments have also been adapted for adolescent cannabis users and compared with family and community reinforcement approaches in a large multisite study (Dennis et al., 2004). These treatments produced significant but, once again, modest reductions in cannabis use. There was little evidence that one treatment approach worked better than another. Adolescents are often directly or indirectly coerced into treat-

ment rather than seeking it voluntarily, which may partially account for apparently weaker effects of treatment relative to those for adults.

REACHING PROBLEM USERS

One way that interventions for problematic cannabis use could have greater impact would be if they reached users who otherwise would not come to treatment. “Check-up” approaches avoid the stigma associated with substance abuse treatment by offering objective assessment and feedback with no pressure to change (Walker, Roffman, & Stephens, 2007). Following an extensive assessment of participants’ cannabis use and related consequences, therapists provide participants with feedback from the assessment and use motivational interviewing techniques to focus on intrinsic motivations for change, support self-determination, and foster self-efficacy for achieving that change. Stephens, Roffman, Fearer, Williams, and Burke (2007) promoted a cannabis check-up by advertising free, objective feedback on cannabis use with no commitment to treatment. The sample of participants who responded were more similar than different compared to those who sought treatment, with the exception that they were less ready to make changes. The single session of feedback and motivational interviewing reduced participants’ frequency of cannabis use, but it was not clear whether the modest magnitude of the effect significantly decreased potential harms associated with cannabis. An attempt to augment the impact of the check-up with additional motivational interviewing sessions failed to further reduce use or consequences associated with use (Stephens et al., 2004). Future research could try variations on this brief intervention, perhaps by delivering it in primary care settings, health fairs, or other venues that can reach users without the stigma of drug abuse treatment.

Another example of reaching potential problem users comes from our survey of attendees of Seattle’s Hempfest, an annual cannabis policy reform festival. We found strong support for future Hempfest events featuring science-based information concerning the health and behavioral effects of cannabis, cannabis dependence, how the user can avoid harm, what to say to a friend or relative who is using too much, and how to talk with teens about cannabis (Roffman & Nicole, 2007).

More recently we have used the check-up approach to reach adolescent cannabis users in high schools. As noted above, adolescents rarely approach treatment for cannabis use voluntarily due to low perceived harm and barriers to accessing help without alerting parents or authorities. Situating the check-up within high schools with precautions to protect students’ identities was seen as a way to overcome these barriers. An initial study showed that adolescent cannabis users readily engaged in the check-up and reduced their frequency of use over a 3-month follow-up (Walker, Roffman, Ste-

phens, Berghuis, & Kim, 2006). However, equivalent change also occurred in a delayed feedback control condition that simply received the assessment without feedback. These findings were promising in reaching adolescents on a voluntary basis, but raised questions about whether assessment alone was sufficient to engender change. Additional research is currently underway to sort through this issue and establish the durability of change over a longer span of time (Walker, Roffman, & Stephens, 2007).

CANNABIS POLICY AND HARM REDUCTION

In contrast to continuing a policy of prohibition, various forms of cannabis legalization have been proposed to reduce harms. The most extreme changes have been suggested by authors such as Milton Friedman (Friedman & Friedman, 1990) and Thomas Szasz (1992), who both advocated for full legalization and over-the-counter sale of all drugs. An early and more modest example of a policy change to accomplish harm reduction was the Shafer Commission's recommendation in 1972 that cannabis possession be decriminalized in the United States (National Commission on Marihuana and Drug Abuse, 1972). The commission members reasoned that overly severe penalties risked undermining the credibility of government in educating the public about potential drug-related harms, and the rationale for decriminalization (i.e., removing criminal penalties for possession while retaining them for selling) was to avoid that consequence while continuing to discourage cannabis use.

More recently, Hall (2007) summarized the costs potentially associated with enforcing cannabis prohibition that are the basis for arguments favoring liberalizing cannabis control policies. These include (1) using criminal penalties to protect users from harming themselves is an unwarranted infringement of individual liberty; (2) because cannabis is no more harmful than alcohol, it too should be legal; (3) criminalizing cannabis possession has failed to prevent its use; (4) prohibition prevents deploying police and court resources for addressing more serious crimes; (5) large financial incentives provide the foundation for a cannabis black market; (6) prohibition sets the stage for law enforcement corruption; (7) regulatory protections such as quality control, age restrictions, and separating cannabis from the heroin and cocaine distribution markets are not possible; (8) the potential for tax revenue is lost; (9) harms from being subjected to criminal penalties (e.g., adverse impact of a criminal record on employment, reputation, and civil rights; loss of driver's license; threat of deportation) outweigh whatever harms may be caused by cannabis use; (10) public disrespect for the rule of law increases when most who violate the cannabis possession law are neither detected nor prosecuted; (11) the application of prohibition is applied in a discriminatory manner (e.g., racial and social class dispari-

ties); (12) cannabis prohibition leads to exaggerated claims by governmental entities, and an outcome of this misinformation is reduced credibility of government concerning actual drug harms; and (13) criminalizing possession prevents patient access to cannabis for medical purposes. Of course, the extent to which each of these consequences of current cannabis policy is true is a matter of considerable debate. Hall (2007) reviews the data related to each argument, but ultimately concludes that there are many unknowns about the consequences of a more liberal cannabis use policy.

Several variations in cannabis control policies have been implemented in various locales in order to address certain of these costs: creating specialized drug courts where an emphasis is given to rewarding abstinence contingently with reduced penalties or expunged records, diversion of offenders to treatment, replacing criminal with civil penalties (e.g., a parking ticket), and instituting an official nonenforcement policy for adult possession of cannabis. An example of the latter is an initiative passed by Seattle voters in 2003 that stated: “[t]he Seattle Police Department and City Attorney’s Office shall make the investigation, arrest and prosecution of cannabis offenses, when the cannabis was intended for adult personal use, the City’s lowest law enforcement priority” (Marijuana Policy Review Panel, 2007).

Another model of legalization is a state-level regulatory system such as that proposed by the King County Bar Association in the State of Washington (King County Bar Association, 2005). Four principles to guide drug policy reform were articulated by the Association:

- (1) any public policy toward drug use should seek to result in no more harm than the use of the drugs themselves; (2) any public policy toward drug use should address the underlying causes and the resulting harms of drug abuse instead of attempting to discourage drug use through the imposition of criminal sanctions; (3) the state should regulate drugs in a manner than recognizes citizens’ individual liberties while answering the need to preserve public health, public safety and public order, especially providing compassionate treatment to those in need; and (4) the state should regulate the use of drugs in a manner that uses scarce public resources as efficiently as possible.

With reference to cannabis, elements of a regulatory system envisioned by the association include (1) licensing in-state private producers and closely monitoring their operations; (2) permitting sale of cannabis in state-run stores; (3) limiting quantities of cannabis that could be purchased to avoid diversion to a black market; (4) permitting home cultivation and noncommercial exchanges (i.e., gift giving) between adults; (5) legally prohibiting young persons from possessing cannabis, but emphasizing confiscation and rehabilitation for young violators rather than criminal sanctions; (6) criminally penalizing adults for providing cannabis to young persons, but not young persons who provide the drug to their peers; (7) more widely imple-

menting prevention programs that stress youth development and encourage healthy behaviors; (8) severely limiting cannabis advertising and other promotion; (9) mounting an aggressive state-sponsored public education campaign focusing on problematic substance use; (10) retaining criminal penalties for driving or doing harm to persons or property while under the influence of cannabis; and (11) setting the price of cannabis at a level that would undercut the black market.

This form of regulation has been termed “grudging toleration” by Mark Kleiman (1992), who added user licensing as one additional element. Kleiman notes that such a regulatory system would reduce some harms that result from criminalizing possession, may undercut the cannabis black market, would likely reduce disrespect for law enforcement, and may prevent much access to cannabis by young people.

REDUCING THE HARM FROM CANNABIS USE

Based on the above review, we believe that the following harm reduction strategies pertaining to cannabis ought to be implemented:

1. Accurate, balanced, and thorough information concerning cannabis (e.g., acknowledging benefits, pointing to risks, offering strategies to avoid harm for those who use, advising what to do if use becomes compulsive) should be made easily accessible to those who use cannabis or are contemplating doing so. At present, neither governmental agencies responsible for disseminating drug information nor organizations active in the drug policy reform movement meet this harm reduction principle. Presumably, both use information selectively to present the strongest case for continued cannabis prohibition or policy liberalization. Ultimately, the dissemination of partial and/or incorrect information is a disservice to those who would benefit from the knowledge needed to make informed decisions and, and on the basis of accurate knowledge, take steps to reduce the likelihood of harmful consequences. It is not necessary to erroneously claim that harm results from moderate cannabis consumption in otherwise healthy adults in order to warn of the risk of dependence and other negative health outcomes in those who use cannabis heavily. The relatively low risk associated with occasional use in older adolescents also can be acknowledged while concurrently noting the dangers for adolescents whose use begins early and becomes chronic.

Conversely, various advocacy groups, such as the National Organization for the Reform of Marijuana Laws (www.norml.org) and the Cannabis Consumers Campaign (www.cannabisconsumers.org), publish reasonable guidelines for the responsible use of cannabis that are not inconsistent with our conclusions. Yet these portals to information for

cannabis users are largely silent on the known risks for dependency and negative personal and health effects. It is not necessary to deny the potential for some harm in order to make a case that moderate responsible use is acceptable.

2. Recognizing that a substantial number of individuals use cannabis for medical purposes without the benefit of pharmaceutical industry quality controls, special efforts are needed to provide comprehensive consumer education about dosages and contraindications, benefits and risks, and the provision of knowledge akin to what is commonly included in the package insert with commercial pharmaceuticals. This ought to include informing vulnerable populations about potential risks associated with cannabis. In addition to pregnant women, those with cardiovascular or pulmonary disease, and persons with a predisposition to psychosis, individuals with Huntington's disease (Müller-Vahl, Schneider, & Emrich, 1999), hepatitis C (Hezode et al., 2005; Ishida et al., 2008), and epilepsy (Freemon, 1974; Hart, van Gorp, Haney, Foltin, & Fischman, 2001) should be advised about the potential for adverse effects.

3. Because of the adverse effects on the lungs, the use of other less risky modes of administration, such as inhalation with a vaporizer, which allows inhalation of cannabinoids and terpenes without burning the plant material, should be recommended (Abrams et al., 2007).

4. Cannabis use by children and young adolescents, very frequent use by anyone, and driving under the influence of cannabis should be strongly discouraged due to the increased risks for adverse outcomes noted above.

5. Criminal penalties for cannabis possession by adults should be eliminated. It is tempting to advocate for outright legalization of cannabis use based primarily on arguments for individual civil liberties and relatively low harm potential. Yet real harms do occur, and the unpredictable effect of legalization on the incidence of these negative consequences is concerning (Hall, 2007). Removal of criminal penalties for cannabis possession by adults addresses the most severe inequities in current policy and is appropriate change for this time. If the four other harm reduction recommendations (see above) are implemented, self-regulation by cannabis users should increase, with a consequent overall reduction in harms.

FUTURE DIRECTIONS IN HARM REDUCTION RESEARCH ON CANNABIS

A major stumbling block in our ability to identify and prevent harms associated with cannabis is our reliance on simplistic assessment and quantification of use. Too often, studies rely on simple dichotomies between users

and nonusers, thus lumping all users together. Frequency of use is a better measure, but still misses the differences between those who restrict use to evenings, weekends, or other recreational occasions and those whose use is indiscriminant. To a large extent the problem results from the many different forms in which cannabis is used and the lack of standardization of potency in those preparations. It may be impossible to arrive at a "safe" level of use or something analogous to blood alcohol concentrations as markers for harm, but it should be possible to better document patterns of use that increase risks. This will require fine-grained studies of the variety of use patterns in the general population and ultimately longitudinal studies to address issues of causality between those patterns and harmful outcomes.

Better information on harmful levels or patterns of use would help prevention programs establish credibility with children, teens, and young adults. Rather than denying that nonproblematic use is possible, these programs could be equipped with meaningful information on patterns of use known to be problematic. New users would be able to better monitor and self-regulate their consumption so as to avoid escalating use and problems. It also could provide targets for those seeking to reduce their use. Currently, most treatment programs are abstinence oriented. Yet there is evidence that many users seeking treatment hope to moderate their use rather than quit completely (Lozano, Stephens, & Roffman, 2006). It is not clear whether moderate use goals are easily attainable in dependent users, but reasonable guidelines on rates of use that reduce harms could inform treatment trials designed to test this hypothesis.

In turn, having treatment programs designed to promote moderation may attract more problem users than are currently reached by the abstinence-only system. Even if moderation programs have limited success with more dependent users, they may still serve as an important first step in a continuum of care. It may be easier to promote the abstinence goal if attempts at moderate use have failed. In general, we need to continue to find ways of reaching the large number of users who experience problems but who do not seek treatment.

Clearly, many of the harms associated with cannabis use are the result of its criminalization. Yet even we are reluctant to endorse full legalization in light of the uncertainties regarding the potential negative consequences of such an extreme change. More and better studies of the effects of various types of policy change on rates of problematic cannabis use are needed. The effects of a specific type of policy may very well depend on cultural and attitudinal differences regarding cannabis use and, therefore, will require replication in specific nations or locales of interest. Nevertheless, in order to reduce harms associated with cannabis use it will be important to continue research at both the societal and individual levels.

CONCLUSION

Cannabis use can be associated with harm to the individual and to society with the greatest likelihood of negative consequences occurring in those who become chronic and excessive users. Acute intoxication can produce anxiety and panic attacks and impair performance in school, the workplace, and while driving. There is some concern that cannabis use by pregnant mothers may cause subtle impairments in cognitive functioning in offspring, but additional studies that better control for alternative explanations are needed. Those with cardiovascular disease may be at increased risk for myocardial infarction following the use of cannabis. Chronic cannabis use by adolescents may interfere with education and other adult role attainments. Respiratory functioning is impaired by regular cannabis smoking. Subtle cognitive impairments may persist in heavy users after discontinuation of use, but the source and extent of these deficits are still contentious and major impairments in brain functioning are not seen. There appears to be an increased risk of psychotic symptoms associated with cannabis use. Nevertheless, the public health burden of cannabis use is likely considerably less than that for alcohol, tobacco, and other illicit drugs.

Harm reduction can be facilitated by clear and honest communication about the nature and extent of potential negative consequences. Medical marijuana users need better information about appropriate use of the drug in relation to specific disorders and contraindicating factors. Frequent use by adolescents should be discouraged, as should driving under the influence. The development of alternative methods for consuming cannabis that avoid the hazards of smoking (e.g., vaporizers) may help offset the most probable negative health effects. However, the greatest harms to users and society from cannabis are likely related to laws and policies that unnecessarily and unfairly criminalize users. Legislation that decriminalizes cannabis use is needed to reduce these consequences. Programs that provide greater access to nonstigmatizing counseling and treatment options will help the small group of users who develop dependence and problems associated with chronic use.

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CHAPTER 6



Reducing Harm Associated with Illicit Drug Use

Opiates, Amphetamines, Cocaine,
Steroids, and Other Substances

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Annually, the Office of Applied Studies of the Substance Abuse and Mental Health Services Administration (SAMHSA) conducts a National Survey on Drug Use and Health (NSDUH) in the United States. In 2007 approximately 19.9 million Americans over the age of 12 were identified as being current users of illicit drugs (defined as using an illicit drug at least once in the month prior to a survey interview) (SAMHSA, 2008). Excluding marijuana, which was the primary illicit drug used (and which is covered elsewhere in this book), 9.3 million people over the age of 12 (just under 4% of the population of the United States) reported past-month use of an illicit drug. A range of substances make up these “illicit drugs.” Past-month use of nonmedical prescription drugs was reported by 6.9 million Americans; of these, 5.2 million reported use of pain relievers, 1.8 million used

tranquilizers, 1.1 million used prescription stimulants, and 346,000 used sedatives. In addition, in 2007 there were an estimated 2.1 million current users of cocaine (including 610,000 with past-month use of crack), and approximately 1 million current users of hallucinogens (including 503,000 who had used Ecstasy, 145,000 who used LSD, and 41,000 who used PCP). Prevalence rates of other drugs fell below 1 million (or 0.4% of the population) and included, for the purposes of this chapter, 529,000 current users of methamphetamine and 153,000 current users of heroin (SAMHSA, 2008).

When considering the impact of substance use, there is clearly a range of consequences associated with use, including some for whom problems associated with abuse or dependence emerge. Moving from past-month to a past-year time frame, 9% of the U.S. population age 12 or older (22.3 million people) were classified with substance dependence or abuse based on criteria from the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV; American Psychiatric Association, 1994). Alcohol abuse or dependence accounted for the majority of this rate (15.5 million people), although 3.7 million met criteria for dependence or abuse of illicit drugs but not alcohol, and 3.2 million met criteria for dependence or abuse of both illicit drugs and alcohol. Among users of illicit drugs, 1.7 million met past-year criteria for dependence or abuse for pain relievers, and 1.6 million met criteria for dependence or abuse for cocaine (SAMHSA, 2008).

Data from the NSDUH survey indicated that people are, in fact, seeking and receiving treatment for problems related to use of alcohol or illicit drugs, including self-help groups, outpatient rehabilitation, outpatient mental health centers, inpatient rehabilitation, hospital inpatient, private doctor, prison or jail, and emergency room. Alcohol and marijuana use accounted for the main focus of those receiving treatment in the past year, although the substances for which the most recent treatment was received also included cocaine (809,000 respondents), pain relievers (558,000), heroin (335,000), stimulants (311,000), and hallucinogens (303,000) (SAMHSA, 2008).

From a harm reduction standpoint, injection drug use has consistently been a concern and a focus of interventions. Injection drug use has been strongly associated with the transmission of blood-borne diseases, such as the human immunodeficiency virus (HIV) and hepatitis B and C (Mansson, Moestrup, Nordenfelt, & Widell, 2000). This association is evident when one considers that 64.4% of past-year injection drug users report that they did not clean the needle with bleach before the last time they injected and that 13.1% of injection drug users used a needle that they knew or suspected was previously used by another person (SAMHSA, 2005b).

The development of needle exchange programs (NEPs) were some of the earliest attempts to reduce the spread of blood-borne diseases among injection drug users by supplying new, clean injection equipment, needle-

cleaning paraphernalia, and offering a safe place to dispose of used equipment (Ksobiech, 2003; Patel, 2007). According to the Centers for Disease Control and Prevention (CDC; 2007), 166 NEPs were in operation across the United States in 2005 and exchanged 22.5 million syringes. The results of Ksobiech's (2003) meta-analysis of needle-sharing behaviors supports the harm reduction intentions of NEPs by showing significant reductions in needle sharing and borrowing by intravenous drug users who utilize NEPs. While not the case in the United States, drug consumption rooms (DCRs), or supervised injection sites, have existed in Europe for more than two decades. DCRs seek to reduce health consequences and public order problems related to intravenous drug use by offering a safe, hygienic, and low-risk environment where drug users can administer preobtained drugs. Kimber, Dolan, and Wodak (2005), in a survey of 39 DCRs across Europe, found reductions in overdose events and deaths, HIV risk behaviors, and in injecting and disposing of injection paraphernalia in public. In addition, intravenous drug users reported reductions in outdoor injecting, unsafe syringe disposal, and less rushed injecting (Petrar et al., 2007).

In the previous edition of this book, Tapert and colleagues (1998) noted that for illicit substance use and abuse, harm reduction strategies could include altering an individual's drug-taking practices or substituting a less harmful substance or the same substance in a less potent form. Their chapter provided a synopsis of the extant literature regarding their efficacy and effectiveness as harm reduction interventions, and also briefly reviewed the factors associated with the feasibility of their implementation. As much of the information presented by Tapert and colleagues in the first edition remains consistent with the current state of scientific knowledge, it will not be repeated here. Rather, the goal of this section is to update the reader on research evaluating the efficacy and feasibility of specific harm reduction approaches that was published in the 10 years subsequent to the first edition; however, to set an appropriate foundation for this new information, and to provide continuity between editions, a concise introduction to each featured substance is presented, and the conclusions reached by Tapert and colleagues regarding each harm reduction approach is summarized in the appropriate section. In this chapter, we consider harm reduction efforts with opiates (for which there is perhaps the most empirically evaluated information addressing specific harm reduction strategies), amphetamines, and cocaine. We briefly discuss and consider the harm reduction strategies for misuse of prescription drugs, hallucinogens, and steroids.

OPIATES

In the first edition of this volume, Tapert and colleagues (1998) provided a detailed description of the epidemiology of opiate misuse, abuse, and

dependence within the United States; the objective and subjective effects produced by acute versus chronic opiate use; the specific characteristics associated with individual drugs classified as opiates, including duration of action, frequency and primary route of administration, withdrawal profile, and legal status; and the various pharmacological agents, including methadone, L-alpha-acetylmethadol (LAAM), buprenorphine, prescription heroin, and ibogaine, that have been employed therapeutically in an effort to reduce the harm associated with the use of and dependence on illegally procured opiates.

The term *opiates* is often used interchangeably with the term *narcotics* to refer to a class of drugs comprising unadulterated opium, opium derivatives (e.g., morphine, codeine), and partially synthetic (e.g., heroin, hydromorphone, hydrocodone, oxycodone) or fully synthetic substances (e.g., meperidine, dextropropoxyphene, fentanyl) that mimic the analgesic effects of morphine (Drug Enforcement Administration [DEA], 2005). The term *narcotics* has also been used more colloquially to refer to the full compass of illicit substances listed under Schedule I of the Controlled Substances Act; however, several narcotics are legally sanctioned for therapeutic use to alleviate pain and severe diarrhea (e.g., Demerol, Dilaudid, Duragesic, Percocet, Vicodin) or suppress cough (e.g., syrups that contain codeine) (DEA, 2005). In addition, methadone, LAAM (e.g., ORLMM), and buprenorphine (e.g., Suboxone, Subutex) are all synthetic narcotics currently approved for use within the United States in the treatment of opiate dependence. At the level of the central nervous system, narcotics bind to opioid receptors producing analgesia as well as depressant effects, including significant respiratory depression and death at higher doses. Subjectively, narcotics produce feelings of euphoria and sedation in addition to pain relief, which contributes to their abuse potential. Withdrawal symptoms can include increased heart rate and blood pressure; diffuse muscle pain, spasms and tremors; bone pain; diarrhea; loss of appetite; nausea; vomiting; chills; flushing; sweating; depression; restlessness; and insomnia (DEA, 2005; National Institute on Drug Abuse [NIDA], 2005).

According to the most recent NSDUH (SAMHSA, 2008), there was a decrease from 338,000 to 153,000 from 2006 to 2007 in the number of individuals age 12 years or older reporting heroin use within the month prior to the survey. More than 5 million individuals reported current non-medical use of prescription pain medication in 2007, of which approximately 369,000 were misusing OxyContin; interestingly, more than 50% of the individuals who endorsed nonmedical use of prescription pain medication reported that they obtained the drugs at no cost through friends or family members (SAMHSA, 2008). As compared to use of heroin procured from street dealers, nonmedical use of prescription opiates obtained from friends or family ostensibly carries less risk of overdose due to variations

in drug concentration and purity; however, it is by no means without risk. First, although unadulterated prescription opiates produce controlled analgesia when used as directed, individuals who use prescription opiates non-medically often do not use them in the manner directed by the prescribing physician (e.g., they ingest the drug in higher or more frequent doses than recommended, convert pill formulations into liquids for intravenous injection or powders for snorting, or introduce controlled-release transdermal formulations orally), and may use them in combination with other drugs (including alcohol and heroin), significantly increasing their potential for harm. Furthermore, for individuals not currently using heroin, use of prescription opiates may potentially serve as a “gateway” drug. In a community sample of 237 individuals age 16 years or older who reported at least one occasion of nonmedical opiate use within the past month, nearly 80% reported use of OxyContin, approximately 70% reported use of another prescription opiate, and close to 45% reported use of heroin (Grau et al., 2007). Survival analyses examining the progression from nonmedical use of prescription opiates to heroin within this sample (based on retrospective self-report) suggest that individuals who used OxyContin and at least one other prescription opiate within their first year of use (relative to those who only used OxyContin) were at elevated risk for onset of heroin use within 2 years; however, after 2 years, use of any prescription opiate was associated with a similar risk of progression to heroin use (Grau et al., 2007). In 2005, heroin use was identified in 20% of illicit drug-related emergency department visits in the United States, and prescription opiates were noted in 33% of nonmedical use-related visits (SAMHSA, 2007), and as a whole opiates are the most frequently implicated substance in drug-misuse-related deaths nationwide (SAMHSA, 2005a).

Methadone Maintenance

Methadone is a synthetic opioid agonist formulated for oral administration. In comparison to heroin, a therapeutic dose of methadone (60–120 mg) is less impairing (i.e., produces less intense euphoria and forestalls onset of withdrawal symptoms and craving for a longer period of time, leading to less frequent need for administration). Based on a review of studies dating back as far as 1968, Tapert and colleagues (1998) concluded that methadone maintenance programs evidence better treatment retention rates than abstinence-oriented psychosocial drug interventions; that, similar to other mental disorders, treatment retention is the best prognostic indicator of treatment success (i.e., reduction or elimination of illicit opiate use); and that use of “methadone [in the treatment of opiate dependence] reduces crime, improves health status, and helps opiate-dependent individuals attain productive lifestyles” (p. 159).

Research published subsequent to the review by Tapert and colleagues similarly supports the efficacy of methadone maintenance therapy. For example, Maddux and Desmond (1997) followed 610 intravenous opiate users enrolled in a methadone maintenance program through 1 year postadmission. At the 12-month assessment, 52% of participants remained in therapy (completers), more than 90% of whom had been continuously on methadone maintenance since baseline; those with a discontinuous course of therapy received an average of 4.1 months of methadone before discharge, and an average of 4 months of methadone following readmission. The 48% of individuals who were not in therapy at the 12-month assessment (noncompleters) received an average of 5.2 months of methadone prior to discharge. Although the strength of their results is necessarily limited by the absence of an alternate treatment comparison group, compared to baseline, all individuals who were enrolled in the methadone program significantly decreased their frequency of intravenous drug use (completers evidenced an 87% decrease [from 29.4 to 3.7 days], whereas noncompleters demonstrated a 70% decrease [from 29.3 to 8.7 days]) and use of unclean needles (completers showed an 88% decrease [from 5.9 to 0.7 days], whereas noncompleters demonstrated a 67% decrease [from 7.2 to 2.4 days]). Number of days individuals engaged in criminal activity was also significantly decreased for completers (91% decrease, from 17.4 to 1.5 days) and noncompleters (80% decrease, from 20.2 to 4.0 days), and level of productive activity was significantly increased for completers (70% increase, from 10.5 to 17.8 days) but not noncompleters.

Although Maddux and Desmond (1997) focused on individuals who regularly engaged in intravenous use of opiates—a group at particular risk for harms associated with needle use, such as disease transmission and infection—methadone maintenance therapy appears equally effective for individuals who use heroin intranasally. Highfield, Schwartz, Jaffe, and O’Grady (2007) randomly assigned 319 heroin-dependent individuals who were currently on a waiting list for a comprehensive methadone program to an interim methadone treatment (i.e., provision of a stabilizing dose of methadone for up to 120 days without provision of the psychosocial services available to individuals in the affiliated comprehensive program) or a waiting-list control. Of the 199 individuals assigned to the interim methadone treatment group, 60.2% used heroin intranasally and 39.2% used heroin intravenously; of the 120 individuals who were assigned to remain on the waiting list, 59% used heroin intranasally and 41% used heroin intravenously. A significant interaction between route of administration and time (baseline vs. follow-up at point of transfer to the comprehensive program) was evident with intranasal drug users demonstrating a greater decrease in number of days of heroin use than intravenous users. This effect was largely

driven by the interim methadone group, with intranasal drug users reporting a mean decrease from 29.39 to 3.12 days of heroin use (and a decrease in opioid-positive urine toxicology screens from 99.1% to 57.5%) and intravenous drug users reporting a mean decrease from 29.86 to 5.87 days of heroin use (and a similar decrease in opioid-positive urine toxicology screens from 100% to 55.9%); individuals in the waiting list control group showed negligible decreases from baseline to follow-up (intranasal: 29.79 to 25.55 days, 98.5% to 83.9% opioid-positive urine screens; intravenous: 29.84 to 27.72 days, 97.9% to 71.8% opioid-positive urine screens). Compared to individuals on the waiting list, intranasal and intravenous participants in the interim methadone treatment group both showed a marked decrease in number of days engaged in criminal activity (an average of 7.3 to 1.5 days) and funds obtained from illegal sources (\$360 to \$29).

Taken as a whole, the available evidence supports the efficacy of methadone programs; however, not all programs are built alike. One primary consideration regarding the efficacy of the treatment in reducing use of illicit opiates is an individual's methadone dose. In a cross-sectional study of 80 clients at a methadone clinic in Australia (Kingsbury, Lennings, & Andrew, 1999), 75% indicated that they had used illicit drugs during the month prior to assessment, 42% of whom endorsed using opiates (other than methadone). A significant relation was found between opiate use and receipt of a 55 mg or lower daily dose of methadone (below the recommended therapeutic dose); furthermore, a significantly smaller proportion of individuals receiving a dose of 80 mg or higher reported using opiates in the previous month. While this research suggests that higher doses may serve a protective function, higher doses of methadone may confer greater medical risk (in terms of risk for respiratory depression and potential overdose if other drugs are used contemporaneously), and some research suggests that acute dose increases are associated with elevated craving for heroin (Curran, Bolton, Wanigaratne, & Smyth, 1999). Curran and colleagues (1999) recruited 18 individuals on a stable dose of methadone to complete a double-blind, within-subjects placebo-controlled study. Participants were randomly assigned to treatment order, receiving a 33% greater dose of methadone on one testing day and a similarly prepared oral placebo on the other; treatment days were separated by a 1-week drug elimination period. When asked to guess which treatment they had received on which day, participants performed no better than chance; however, following methadone compared to placebo, participants reported significantly increased craving for heroin, with elevated anticipation of positive outcomes from drug use and relief from withdrawal and dysphoria. Given these findings and individual differences in drug metabolism, which affects experience of withdrawal symptoms, more research is needed to determine the optimum methadone dosage schedule to minimize illicit heroin use and craving and maximize treatment retention.

L-Alpha-Acetylmethadol

Similar to methadone, LAAM is a synthetic opioid agonist formulated for oral administration that produces less impairment than heroin; however, it differs from methadone in its duration of action and side effect profile. The effects of a 50- to 120-mg dose of LAAM are present for up to 48 to 72 hours postadministration as compared to 24 hours for methadone and 6 hours for heroin (Tapert et al., 1998). As such, the drug is typically dispensed every other day as opposed to daily. Based on evidence from two studies conducted in the 1970s, Tapert and colleagues (1998) concluded that “LAAM is as effective as methadone in reducing heroin use and associated behaviors” (p. 168); however, the existing evidence suggested that individuals receiving LAAM have poorer treatment retention rates relative to methadone maintenance.

The extant research continues to support the efficacy of LAAM as a treatment alternative to methadone maintenance therapy, and some research suggests that LAAM may result in more favorable outcomes. Amato and colleagues (2005) conducted a meta-analysis of 52 studies evaluating the efficacy of various opioid maintenance therapies; results from the four studies comparing LAAM to methadone maintenance indicated that LAAM is associated with greater reductions in self-reported heroin use. However, as previously suggested, a smaller percentage of individuals are retained in LAAM relative to methadone programs, and this disparity is more apparent early in treatment (Amato et al., 2005; Clark et al., 2002). A large percentage (30–60%) of individuals who drop out of LAAM treatment cite undesirable side effects or failure of the medication to produce the intended effects as the primary reason (Clark et al., 2002). Furthermore, reported cases of potentially life-threatening arrhythmia following use of LAAM have led to the recommendation that LAAM only be administered to individuals who have not responded favorably to other opiate addiction treatments (Haasen & van den Brink, 2006; McCormick, 2001). As such, the cost–benefit ratio of using LAAM to treat opioid dependence should be carefully considered for each individual.

Buprenorphine

Buprenorphine is a semisynthetic opioid agonist formulated for oral administration with duration of action similar to methadone (24 to 36 hours); the recommended therapeutic dose ranges from 8 to 16 mg. Unlike other opiates (including methadone and LAAM), buprenorphine appears to create less respiratory depression, even at higher doses, and therefore may be safer (Walsh & Eissenberg, 2003). In their review, Tapert and colleagues (1998) concluded that “buprenorphine appears comparable to methadone in terms of client satisfaction, and as effective or almost as effective in reducing

illicit drug use” (p. 170); retention rates in buprenorphine programs were also noted to be comparable to other maintenance programs.

More recent data on the efficacy of buprenorphine has been mixed, in part due to apparent dosage differences across studies. A meta-analysis of five randomized controlled trials comparing buprenorphine to methadone demonstrated that an 8- to 12-mg daily dose of buprenorphine produces more favorable outcomes (fewer positive urinalyses, greater retention in treatment) relative to low doses of methadone (20–35 mg/day), but less favorable outcomes (more positive urinalyses, poorer retention in treatment) relative to higher doses of methadone (50–80 mg/day) (Barnett, Rodgers, & Bloch, 2001). A separate meta-analysis of nine controlled trials comparing buprenorphine to methadone (inclusive of the five studies analyzed by Barnett et al., 2001) revealed a very slight overall advantage for methadone; however, subsequent analyses revealed superior effects for buprenorphine among those studies including individuals who had previously been on methadone (West, O’Neal, & Graham, 2001). Finally, a very recent meta-analysis (Mattick, Kimber, Breen, & Davoli, 2008) comparing controlled studies of buprenorphine to methadone utilizing flexible dosing procedures similar to what might be used in actual clinics revealed greater retention on methadone, but no significant differences in terms of positive urinalyses; self-reported heroin, cocaine or benzodiazepine use; or criminal activity. Further research may help to elucidate the relations between dose and prior treatment history on relevant outcomes; however, it appears that a sufficient therapeutic dose of buprenorphine is relatively comparable to methadone, and given its more advantageous safety profile may be a better option for individuals seeking opiate maintenance therapy.

Additional Treatments Not Currently Sanctioned in the United States

Prescribed Heroin

Tapert and colleagues (1998) noted a single study of this approach published in 1992, which cited attenuated crime rates and relatively lower HIV rates in the intervention catchment area. Additional studies have evaluated the relative utility of using heroin derivatives in opiate-maintenance therapy; however, the research has been limited by the controlled status of the drugs. At present, the prescription of injectable heroin (diamorphine) to opiate-dependent individuals is only sanctioned in the United Kingdom, Switzerland, and the Netherlands; however, trials comparing the efficacy of diamorphine to methadone have been conducted in Canada (Fisher, Cruz, & Rehm, 2006), and an orally administered alternative (diacetylmorphine [DAM]) has been tested in Switzerland (Frick, Rehm, Kovacic, Ammann, & Uchtenhagen, 2006). A recent meta-analysis of randomized controlled trials evaluating opiate maintenance therapies concluded that injectable

heroin was more effective than methadone at retaining individuals in treatment, but was no more effective than methadone at reducing extratherapeutic heroin use (Amato et al., 2005).

Ibogaine

Unlike other pharmacological agents used in the treatment of opiate dependence, ibogaine is not a narcotic; however, it does act on the various opioid receptors to reduce craving, and animal models suggest that continued use may contribute to reduced opiate use (Tapert et al., 1998). The impact of ibogaine on opiate use in humans is less well studied, and no controlled trials have been conducted to date. However, results from initial open-label studies appear promising. For example Mash and colleagues (2000) administered a single dose of ibogaine (500, 600, or 800 mg) to 27 individuals meeting DSM-IV criteria for opioid or cocaine dependence who were participating in a 14-day inpatient detoxification. Relative to baseline, participants being treated for opioid dependence exhibited significantly reduced opiate craving and lower levels of depression 36 hours following ibogaine administration, and these treatment gains were maintained at 1-month follow-up (Mash et al., 2000). The possibility of lethal adverse reactions raise concerns regarding the mainstream use of ibogaine (Maas & Strubelt, 2006), and much more research is necessary to determine its efficacy; however, a growing subculture of individuals seeking ibogaine for management of opioid withdrawal suggests a clear demand for additional approaches to opioid treatment (Alper, Lotsof, & Kaplan, 2008).

COCAINE

In the first edition of this volume, Tapert and colleagues (1998) detailed cocaine's history, rates and mechanisms of use, consequences associated with use, treatment for cocaine dependence, and implications from a harm reduction perspective. Cocaine (crack, in smokable form) is a powerful stimulant that can be injected, smoked, snorted, or ingested orally; a "rush" accompanies its use (Carroll & Rawson, 2005). Immediate effects include euphoria, a range of physiological effects associated with central nervous system stimulation (increased blood pressure, heart rate, body temperature, etc.), cardiac arrhythmia, anxiety, insomnia, paranoia, and hallucinations (Carroll & Rawson, 2005). Health problems and threats to well-being experienced by users of cocaine and crack cocaine can include difficulties with mental health (e.g., depression, anxiety, sleep problems, paranoia, polysubstance use, aggression, loss of control, restlessness), physical health (e.g., seizures, high blood pressure, respiratory problems, dermatological problems, HIV, HCV, dental decay), and social health (e.g., family prob-

lems, relationship problems, violent behavior, homelessness, unemployment, debts, prostitution, imprisonment, criminal activity, accidents, risky behaviors) (Ilse, Prinzleve, Zurhold, Haasen, & Cocaine EU-Team, 2006).

Ilse and colleagues (2006) interviewed experts in nine European cities to assess the extent of cocaine use in Europe, problems experienced by users, services available to users, and suggestions for improving addiction services. From these interviews, identified harm reduction services (both existing and planned services) available in European cities included acupuncture (Hamburg), recovering beds (Hamburg), case management programs for crack users (Hamburg), informal counseling (London), provision of food and shelter (London), programs addressing needle sharing (London), crack smoke-rooms (Zurich), and counseling for cocaine users in methadone maintenance treatment (Dublin). Proposals for improvement based on harm reduction principles (both from experts interviewed and from the authors) included adapting business hours of service facilities to the needs of individuals accessing programs, providing safe smoke and injection rooms, offering safer-use counseling in recreational settings, and conducting more research to identify evidence-based harm reduction approaches. Ilse and colleagues (2006) conclude that harm reduction strategies should be part of an overall approach to address prevention and to target a range of patterns of substance use. We examine some of the issues surrounding cocaine use and harm reduction in the sections that follow.

Challenges Related to Harm Reduction with Cocaine

There are many challenges and limitations to a harm reduction approach with cocaine use, despite successes with other drugs such as heroin (Erickson & Cheung, 1999). These are reviewed here.

Medical Interventions

Medical interventions with “substitutes” are a challenge to harm reduction approaches with cocaine. Although methadone has been seen as a viable drug substitution for heroin, an analogous substitute for cocaine seems unattractive and ineffective, given the appeal of cocaine’s effects to those who use the drug (Erickson & Cheung, 1999). Furthermore, despite a number of controlled studies, there are no clear findings supporting effective pharmacological treatment for relapse prevention purposes among cocaine users in general, although some subgroups of cocaine users (e.g., those with severe withdrawal symptoms) could benefit from intervention with medication as a component of relapse prevention (van den Brink & van Ree, 2003). It is possible that only amphetamines and pharmaceutical cocaine are seen as actual substitutes for cocaine by those who use, and studies on substitutes as a treatment strategy have either failed to replicate findings or

have been limited by no serious efforts to test substitute approaches (van den Brink & van Ree, 2003). Erickson and Cheung (1999) also observe that cocaine maintenance has not been encouraged and note that treatment programs typically have explicit goals of abstinence. They suggest that more literature addressing “safer” methods of use is needed.

Housing Issues

Unstable housing is also a challenge to harm reduction efforts. In England, more than half of crack cocaine injectors reported recent homelessness, having stayed on the streets, in shelters, or having no fixed abode in the past year (Rhodes et al., 2006). Among variables related to living in single-room-occupancy (SRO) hotels, settings in which rooms are rented to accommodate a single person, are higher rates of cocaine injection and crack cocaine smoking. Furthermore, these settings are suggested to promote needle sharing, are associated with increased risk of accidental drug overdose mortality, generally increase the overall likelihood of sexual and drug-related harms, and may undermine the positive impact of several harm reduction programs and policies (Shannon, Ishida, Lai, & Tyndall, 2006). Providing more adequate housing options (e.g., independent living, treatment-oriented housing, transitional housing, or supportive housing options), detailing and enforcing minimal standards for unregulated SROs, and acknowledging treatment and care issues for HIV-infected individuals living in SRO housing would be steps conducive to reducing drug-related harms (Shannon et al., 2006).

Missed Opportunities with Varied Routes of Administration

There are also challenges inherent to unique risks associated with varied routes of administration when a particular practice is the focus of an intervention. For example, cocaine is the most frequently injected substance in both Argentina and Brazil. While harm reduction efforts often address injection drug use, the harms and risks associated with inhaling or smoking cocaine are seldom targeted by efforts in South America despite higher risks for infections like HIV and hepatitis C (Bastos, Caiaffa, Rossi, Vila, & Malta, 2007). Harm reduction efforts need to address (and/or at least acknowledge) a range of routes of administration, and future research could consider any unique information relevant to specific drug use practices.

Safe-Injection Sites or “User Rooms”

Safe-injection sites or “user rooms” (e.g., in Switzerland or Germany) are available for opiate users in which the drug is prepared for administration (either by the intended user or by another person) and trained personnel are

present in the event of a medical emergency (Erickson & Cheung, 1999). While the desired frequency of consumption for cocaine users could be a barrier to the success of such programs, a supervised setting could reduce risks associated with use. For example, those who utilized a newly opened supervised injecting facility were more likely to have been under 30 years of age, public injection drug users, homeless or residing in unstable housing, daily heroin injectors, daily cocaine injectors, and individuals who had a recent overdose, suggesting that cocaine injectors would utilize such a program and that the facilities actually attract higher-risk individuals (Wood et al., 2005). As a direct measure of cocaine injection in supervised injection facilities, one study in Vancouver, British Columbia, showed that cocaine was used in 37% of all visits over a period of slightly over 1 year (Tyndall et al., 2006). However, the pattern of cocaine use is often characterized by repeat injections, and the restriction of allowing one injection per visit could discourage some from using the facility and could influence the intensity of use by limiting repeated injections. Further research is needed to examine this possible impact. Impressively, Tyndall's group documented that 2,171 referrals to a range of services were made to individuals utilizing the facility, with 37% of referrals being for addiction counseling. Referrals were also made to medical services, detoxification beds, other community services, housing services, methadone maintenance programs, and recovery houses (Tyndall et al., 2006). Cruz, Patra, Fischer, Rehm, and Kalousek (2007) call for a greater understanding of public opinion of programs like supervised injection facilities to assist policymakers, researchers, and health professionals.

The supervised injection facility in Vancouver has prompted additional research to attempt to inform policy at such facilities by assessing other behaviors of injection drug users. Fairbairn and colleagues (2006) have examined assisted injection (which occurs when an individual requires help due to loss of accessible veins, less familiarity with injection techniques, anxiety about injecting, withdrawal symptoms contributing to difficulty injecting, or preference issues) and characteristics of those who provide assistance with injections. In their review of this practice, the majority of supervised injection facilities prohibit assisted injections. In a sample of 704 participants, 193 had provided help injecting during the past 6 months; this was found to be positively associated with syringe lending, frequent heroin injection, unstable housing, binge drug use, frequent cocaine injection, and frequent crack use. In addition, almost half who provided help with another's injection reported having received compensation for doing so. This practice places individuals at very high risk due to the risk of infectious disease transmission to others, particularly through syringe lending. Interventions to offset the harm of needle sharing seem indicated and can include teaching individuals to administer their own injections, requiring individuals administering injections to wear rubber gloves and take other

precautions, and instructing individuals who provide assistance on risks associated with this practice and strategies for reducing them (Fairburn et al., 2006). Additional research on this practice and approaches to reduce risks related to it are needed.

Challenges Related to Polysubstance Use

Numerous studies suggest that the most difficult-to-reach risk group are polysubstance users who inject heroin and cocaine and may or may not present to treatment. If they do, there is the concern that strategies and skills successful with opiate injectors may not necessarily transfer to the problems associated with cocaine injection (Erickson & Cheung, 1999). In a study of 422 opioid abusers in a community needle-exchange program, 78% had a diagnosis of cocaine dependence at some point in their lifetime, with 68% meeting criteria for cocaine dependence at the time of the study (Kidorf et al., 2004). There is also concern about the reasons or motives behind polysubstance use; one study showed that the most common reason cited by participants who endorsed use of heroin and crack at the same time was to use heroin to come down from crack use (Best et al., 2004).

In studies of attendees to dance music events, combination of substances (including cocaine) is frequently reported (Chinet, Stéphan, Zobel, & Halfon, 2007; Winstock, Griffiths, & Stewart, 2001). When interest in a range of harm reduction strategies was assessed (Chinet et al., 2007), differences existed based on frequency of polysubstance use. Daily polydrug users felt that it was more important to have fresh water for hydration available, while those who combined party drugs at a lesser frequency saw having the chance to talk with someone at a prevention stand as important. Independent of frequency, all groups were receptive to on-site emergency staff if needed, pill testing to check for adulterants, and cool water availability. General practitioners were identified by the majority of the sample as someone they would contact in case of substance-related problems and can play a key role in early detection and intervention (Chinet et al., 2007).

Polysubstance use also highlights the possible inadequacy of substance-specific prevention efforts or interventions with a polysubstance-using population (Winstock et al., 2001). Additional research, given this practice, is indicated.

Switches to Cocaine from Other Drugs When Price Increases

Reductions in the availability of certain drugs could also result in increased use of others, as was seen in Australia when heroin availability dropped and price increased in early 2001 (Maher et al., 2007). In a study of injection drug users recruited through outreach, methadone clinics, and needle/syringe programs, the proportion of participants who primarily injected

heroin decreased from 74% to 47% when availability and price were affected, while the proportion of participants who mainly injected cocaine increased from 1% to 13% and eventually settled at 15–20%. This group of individuals was involved in particularly risky behavior. Compared to heroin injectors, individuals who injected cocaine were more likely to have shared needles and syringes, backloaded potentially contaminated or used needles or syringes (backloading is defined as filling one's own needle/syringe with the content of someone else's needle/syringe [Hahn, Page-Shaffer, Ford, Paciorek, & Lum, 2008]), mainly injected in public, and recently shared spoons, water, and any injecting equipment other than needles and syringes. This risk taking is particularly concerning when one considers that cocaine injection was associated with a risk of hepatitis C infection two times that of heroin use and six times that of amphetamine use. It is possible that efforts that exclusively focus on altering availability of drugs can have unintended repercussions. Use of cocaine (and of other drugs discussed in this book) does not occur in a vacuum, and acknowledging the context in which substance use and related behaviors occur can be essential to strategic and effective prevention and intervention efforts.

Innovative Outreach

Innovative outreach programs, such as those using peer health advocates, may be an effective way to provide information to users who might not otherwise receive information. One example of an effective program is the Risk Avoidance Partnership (RAP) in which active drug users were trained as peer health advocates to promote harm reduction (Weeks et al., 2006). Participants completed a 10-session program emphasizing education about health and harm reduction, demonstration of prevention or harm reduction practices, and materials for risk prevention and harm reduction. Just over half of participants completed all 10 training sessions. An evaluation of the program demonstrated that education and prevention was more easily accomplished when novel harm reduction items were used (e.g., of particular interest was crack health kits, which contained rubber tips that could be placed on a crack pipe in the event a person has cut or burned lips and is sharing a pipe). Crack users were curious about harm reduction materials, while injection drug users were commonly familiar with strategies like cleaning syringes and were less interested in demonstrations. Forms documenting encounters suggested that peer health advocates demonstrated crack pipe rubber tip use in one-third of encounters, and almost 90% of advocates claimed that they knew people who began using rubber tips on crack pipes since beginning their work in the program, with more than 90% attributing the initiation of this harm reduction practice to their involvement with the peer. In addition to the apparent impact on peers, participants in the program were directly affected. Comparisons of behaviors

at intake and post-program suggested a significant increase in advocates' use of condoms, reductions in number of sex partners, increased cooking of drug solutions for those who inject drugs, increased use of rubber tips by crack users, and reductions in drug use overall, along with involvement in drug treatment (Weeks et al., 2006). The authors highlight the potential value of utilizing peer health advocates to reach those who might otherwise not connect with health professionals, and recognize the positive impact of program participation.

AMPHETAMINES AND RELATED DRUGS

Tapert and colleagues (1998) briefly discussed amphetamines, with an emphasis on methamphetamines, Ecstasy, and needle-sharing risks. Amphetamines are a class of central nervous system stimulants that include both prescription drugs used to treat obesity and narcolepsy and illicit drugs such as methamphetamine ("speed," "ice," or "crystal") and 3,4-methylenedioxymethamphetamine (MDMA). Amphetamines, and methamphetamine in particular, are considered to be some of the most widely used drugs in the world (Looby & Earleywine, 2007). In addition to amphetamine there are a number of amphetamine-like drugs with similar psychoactive effects, including prescription drugs like methylphenidate (Ritalin) and pemoline (Cylert), both of which are used to treat attention-deficit/hyperactivity disorder (ADHD), and illicit drugs such as methcathinone (Cat, Jeff, or bathtub speed).

Amphetamines (and amphetamine-like drugs) are similar in psychoactive properties to cocaine but typically produce a greater effect on the central nervous system with a longer duration. Illicit versions of these drugs are often cheaper than cocaine, and in the case of methamphetamine and methcathinone, can easily be manufactured in home labs. Amphetamines produce acute effects that are viewed as socially desirable such as confidence, decreased appetite, a good mood, high motivation, and increased energy (Klee & Morris, 1994). Acute effects of amphetamine use include increased heart rate, increased body temperature, extra energy, bronchial dilation, and appetite suppression (Inaba & Cohen, 2004). Initial use often produces a mild euphoria; however, prolonged amphetamine use often produces anxiety, irritability, mental confusion, poor judgment, and delusions and hallucinations. Methamphetamine use can be associated with risk of seizures, strokes, hearts attacks, or psychosis (DeSandre, 2006).

While the use and consequences of amphetamines are often interpreted in such a way as to suggest that amphetamine use follows a progressively debilitating and addictive pathway, most individuals may be able to manage, change, or even stop their use. Uttermark and Cohen (2006), in a longitudinal study of 109 amphetamine users, found that most individuals, even

those who showed indications of losing control, developed self-regulation strategies that allowed them to quit, diminish their use, and, in some rare instances, accommodate high levels of daily amphetamine consumption. Harm reduction policies that minimize the negative effects of drug use are particularly viable in light of these findings. As the use of amphetamines and amphetamine-like drugs has increased, a variety of harm reduction strategies have been considered and/or implemented to reduce the consequences of amphetamine use. In many cases strategies have developed in response to particular drugs such as methamphetamine or MDMA, toward particular populations of users such as men who have sex with men, or to particular behaviors and consequences associated with amphetamine use.

Amphetamine and other stimulant like drugs can be directed into the body via a number of routes including snorting, oral ingestion, smoking, rectally ("booty bumping"), and injection ("slamming"). Recent surveys have found that more people inject stimulants (including amphetamines) than either heroin or cocaine alone (SAMHSA, 2005b). In a study of 974 methamphetamine abusers in outpatient treatment (Rawson, Gonzales, Marinelli-Casey, & Ang, 2007), those who injected methamphetamine had longer histories of methamphetamine use, had more past treatment episodes, lower socioeconomic status, and more legal problems than those who used methamphetamine via other routes of administration. While in treatment, methamphetamine injectors had a poorer prognosis for treatment engagement, abstinence during treatment, and at 12-month posttreatment follow-up. Methamphetamine use has also been associated with sexual risk (Halkitis, Shrem, & Martin, 2005; Koblin et al., 2006; Molitor, Truax, Ruiz, & Sun, 1998; Rawson, Washton, Domier, & Reiber, 2002; Waldorf, Murphy, Lauderback, Reinerman, & Marotta, 1990). Finally, psychological impairment and medical problems were highest for those who injected methamphetamine.

MDMA is a derivative of amphetamine sharing molecular properties similar to both amphetamine and mescaline (Fantegrossi, 2008). While MDMA is most commonly associated with the street name Ecstasy, current literature acknowledges that several amphetamine-like drugs are often found in addition to or in place of MDMA such that Ecstasy may be better thought of as representing a group of drugs known as ring-substituted amphetamines (Cole, Bailey, Sumnall, Wagstaff, & King, 2002; Freudenmann & Spitzer, 2004; Tanner-Smith, 2006). Inaba and Cohen (2004) report that the most common acute effects of MDMA include water toxicity, headache, nausea, hyperthermia, thought and memory impairment, seizures, and heart arrhythmias. Studies of subjective risk assessment (Murphy, Wareing, & Fisk, 2006; Verheyden, Henry, & Curran, 2003) indicate that MDMA users identify becoming paranoid, headaches, anxiety/panic, disorientation, skin irritation, heart arrhythmias, and hallucinations. Akram and Galt (1999) suggest that a major area of potential harm is drug

interaction, which is common among users of MDMA. Over-the-counter cold medications that contain ephedrine or pseudoephedrine, as well as the additional use of cocaine or amphetamines, leads to increased concentrations of the neurotransmitter noradrenaline, which increases the risk of serious medical consequences.

For amphetamines and related drugs, in addition to use of harm reduction strategies like needle-exchange programs and drug consumption rooms, harm reduction efforts have included strategies to identify impure substances, decrease sexual risk, and substitution strategies. These are briefly reviewed here, as is information related to reducing harm associated with MDMA use.

Efforts to Assess Drug Content

Unknowingly taking something other than MDMA with different psychopharmacological and physiological effects presents additional and unpredictable risks. Therefore, regular users of MDMA make efforts to determine the content and purity of pills sold as Ecstasy such as asking friends, asking dealers, utilizing websites, and making use of test kits (Johnston et al., 2006). Although testing pills sold as MDMA is a potential harm reduction strategy, most on-site test kits are reagent tests that indicate by color the presence of MDMA but do not indicate additional components of the pill (Winstock, Wilff, & Ramsey, 2001). Potentially more accurate pill testing is available, but it is expensive and requires specialized equipment (high-performance liquid chromatography, or HPLC) and experienced laboratory personnel.

Reducing Sexual Risk

Harm reduction efforts to decrease sexual risk related to methamphetamine have focused on men who have sex with men. However, coordinated strategies, or buffet services (Rose, Raymond, Kellog, & McFarland, 2006) that increase safer-sex practices and reduce blood-borne disease transmission through condom distribution, needle exchange, testing for sexually transmitted diseases and infections, and harm reduction education are also likely to be effective with heterosexual men and women.

Amphetamine Substitution

A growing body of research suggests that amphetamine substitution may be an effective strategy contributing to harm reduction (Grabowski, Shearer, Merrill, & Negus, 2004; Shearer, Sherman, Wodak, & Van Beek, 2002). It has been suggested that the benefits of amphetamine substitution therapies would be decreased drug use, reduced related risks (e.g., disease transmission), and increased treatment compliance and treatment acceptance

(Graboweski et al., 2004). While there is a dearth of research related to amphetamine substitution, studies over the last 14 years suggests that such benefits could be realized. Fleming and Roberts (1994) found that half of the 26 amphetamine injectors in their study stopped injecting completely, and the remaining injectors had reduced their injecting by a factor of five. The average length of retention in the program was 15 months. In addition, criminal activity was reduced over the course of the study. Similarly, Pates, Coombes, and Ford (1996) found that amphetamine injections per week decreased from 38 to 1.3 and that the quantity of illicit amphetamine used per week decreased from 40 g to 1.6 g over 24 weeks. Criminal activity was also reduced. In a comparison of amphetamine injectors receiving oral dexamphetamine and heroin injectors receiving methadone, Charnaud and Griffiths (1998) found that 70% of amphetamine injectors stopped injecting and that 27% reduced their injecting. By comparison, 67% of heroin injectors stopped injecting and 21% reduced their injecting. White (2000) compared 148 oral and injection users of amphetamine who were given prescriptions for dexamphetamine and found that both oral and injection users of amphetamines had similar rates of illicit amphetamine cessation. In a study of amphetamine users prescribed dexamphetamine who were matched with amphetamine users not in treatment, those participants receiving dexamphetamine showed greater reductions in the amount and frequency of illicit amphetamine use (Klee, Wright, Carnwath, & Merrill, 2001). Finally, in the only randomized study of amphetamine substitution (Shearer et al., 2001), 41 participants were randomized into a control group and a group that received 60 mg of immediate-release dexamphetamine. Both groups showed reductions in the use of illicit amphetamine, reduced injecting behaviors, and a decrease of symptoms of amphetamine dependence. While more research is called for in all of the studies cited, a survey of 149 drug dependence specialists in England and Wales indicated that 60% of respondents saw a need for prescribing amphetamines and 46% actually prescribed amphetamines to amphetamine-dependent patients (Bradbeer, Fleming, Charlton, & Crichton, 1998).

Harm Reduction Strategies with MDMA

The most common harm reduction strategies surrounding MDMA use include drinking water, taking breaks to prevent overheating, and taking vitamins or substances to manage adverse effects or “comedown” (Akram & Galt, 1999; Allot & Redman, 2006). Allot and Redman describe the practice of consuming pharmaceuticals prior or subsequent to MDMA, which is known as *preloading* and *postloading*. This includes the use of selective serotonin reuptake inhibitors (SSRIs), serotonin precursors like 5-hydroxytryptophan (5-HTP), and the antioxidant vitamin C in order to mitigate MDMA-related neurotoxicity.

HALLUCINOGENS

Hallucinogens, also referred to as psychedelics, include lysergic acid diethylamide (LSD), mescaline (peyote), and psilocybin (associated mushrooms), to name a few. The previous edition of this book discussed policy issues and education efforts to reduce harm (Tapert et al., 1998). Research has consistently documented that the most predictable effects of hallucinogens are their unpredictability (Kilmer, Cronce, & Palmer, 2005). Consequently, it is difficult to have clear guidelines around efforts to reduce harm associated with hallucinogen use. LSD is the drug typically considered most representative of hallucinogenic substances, which can cause alterations in thoughts, moods, and perceptions, with perception of intensified sounds, smells, and colors (including a crossing of senses known as synesthesia) (Kilmer et al., 2005). Side effects of hallucinogen use could include increased body temperature, increased heart rate, increased blood pressure, sweating, nausea, tremors, fear, anxiety, and acute adverse reactions (e.g., “bad trips”) (Kilmer et al., 2005).

It has been suggested that to develop effective harm reduction strategies for hallucinogen use, more information must be obtained about ways of coping with altered states that may seem harmful to the individual. To address such issues, a series of 26 narrative interviews with individuals who had used LSD between three and 300 times and psilocybin mushrooms from five to more than 100 times led to suggestions for less risky LSD use (Prepeliczay, 2002). These suggestions included taking the drug in a supportive environment in which available input and stimulation can be controlled, including carefully preparing the environment and scheduling time for the experience. It was suggested that a person should not take LSD alone, abstain when high levels of fear or doubt are present, and, if use occurs, take place with an experienced person not under the influence who can take care of the individual if needed (including advising the user of environmental changes and emphasizing the importance of relaxing). Drug testing measures offered where LSD use is likely to be encountered was also recommended. Consistent with conclusions from the previous edition of this book, conclusions from these interviews highlighted the importance of making information readily available through media designed to reach potential target groups about drug effects, implications of altered states, and possible dangers, and suggests professionals be ready to offer specific counseling and information related to use of hallucinogens (Prepeliczay, 2002).

Others have discussed the availability of information, and Schifano and colleagues (2005) describe their analyses of avenues for obtaining about information about 2C-T-7, a potent hallucinogen, through two search engines (Google and AltaVista). The authors found that harm reduction and pro-drug websites appeared earlier in search engines' lists than did

anti-drug websites. It was suggested that future studies assess the characteristics of consumers who take advantage of online information (Schifano et al., 2005). Indeed, with emerging technologies it could be worthwhile to identify effective ways to reach out to people who may be considering treatment, could benefit from treatment, or who are trying to obtain information to better assess their situation.

As seems to be a consistent concern with substances discussed in this chapter, polysubstance use can also be a concern. A study found that injection drug users under the age of 23 were more likely to have used hallucinogens in the month prior to a study, with 35% of younger participants reporting past-month hallucinogen use compared to just over 10% of older participants (Loxley, Bevan, & Carruthers, 1997). While a younger person's hallucinogen use may not itself be a target of a harm reduction intervention during a discussion with a general practitioner, primary care provider, or counselor, it is important to remember the context of a person's use in the event that other substance use or behaviors (e.g., injection drug use) warrants more immediate attention.

PRESCRIPTION DRUGS

As evidenced by national data, prescription drug misuse, including use of pain relievers (see the discussion of opiates earlier in this chapter), tranquilizers, stimulants, and sedatives, is a continuing concern (SAMHSA, 2008). Further related to topics already addressed in this chapter, prescription stimulant misuse has evolved from the abuse of amphetamine-based medications prescribed for dieting to the misuse of amphetamine-based and amphetamine-like medications used in the treatment of ADHD. These medications include methylphenidate (Ritalin), pemoline (Cylert), and dextroamphetamine (Adderall). Research has found that college students used methylphenidate recreationally at a rate twice that of their noncollege peers (5.7% vs. 2.5%; Johnston, O'Malley, & Bachman 2003), and recreational use of methylphenidate was higher than cocaine, illicit stimulants, and psychedelic drugs among substance-using adolescents (Marsh, Key, & Payne, 2000). Finally, Sharp and Rosen (2007) found in a sample of 448 college students a prevalence rate for recreational stimulant use of 18%.

Overdose risk, addiction, and concern associated with drug interactions are factors to consider with prescription drug misuse. A sample of participants in an underground dance scene demonstrated that 44% of participants had taken "dance drugs" (Ecstasy, amphetamine, and LSD) with other prescription or over-the-counter medications, and 24% of participants regularly took prescription medication (Akram & Galt, 1999). When asked what information they would like regarding "dance drugs," 41% responded that they wanted information on interactions with other drugs.

While specific harm reduction guidelines around nonmedical prescription drug use are not clearly documented in the research literature, providing information about drug interactions to aid in less dangerous practices seems to be indicated. A study of injection drug users suggested that respondents 23 years old and older were more likely to have used tranquilizers more than daily (47.4% of the older sample compared to 26% of the sample under the age of 23), while younger participants were more likely to have used tranquilizers weekly or less than weekly (35.6% of those under 23, 15.3% of those 23 and over) (Loxley et al., 1997). As before, conversations with a health care provider should include a consideration of the context of use, particularly in the event that additional risky substances and/or behaviors are present.

STEROIDS

Anabolic steroids have been the subject of a great deal of controversy in and for participants of Major League Baseball, professional wrestling, and Olympic sports. Despite the focus in the popular media on these elite athletes, these individuals actually make up the smallest segment of the steroid-using population, with other subgroups including aesthetes (including bodybuilders, models, actors, and gay men), functional or occupational users (including bodyguards, police, firefighters, and military personnel), and adolescents (Peters, Copeland, & Dillon, 1999). Anabolic-androgenic steroids are synthetic derivatives of testosterone, typically injected or taken orally to increase muscle growth (Kilmer et al., 2005). Side effects may include acne, oily hair and skin, sex-specific side effects (e.g., for males, testicular atrophy, impotence, baldness, breast development; for females, lowered voice, increased body hair, enlarged clitoris, reductions in body fat and breast size), cardiovascular risks, increased risk of cancer, and complications due to needle sharing (Kilmer et al., 2005).

Anabolic steroid injectors require syringes with longer needles and a larger diameter than other injection drug users and, through reuse of syringes and equipment, blood-borne pathogens could be spread (Rich et al., 1999). Consequently, Rich and colleagues (1999) suggest that needle-exchange programs utilized by other injection drug users could be used to promote harm reduction messages and reduce needle sharing among steroid users. Their investigation of 42 needle-exchange programs in the United States indicated that 60% had anabolic steroid-injecting clients (making up 1.4% of total clients served), and 32% actively engaged in outreach to steroid injectors. Despite worries of “roid rage,” aggressive behavior suggested to accompany steroid use, there were no reports of negative incidents involving steroid users at needle-exchange sites. It is possible that these programs could play an important part in affecting the health and behavior of steroid users.

A challenge of working with steroid users is that most common side effects are seen as treatable and transitory (Hildebrandt, Langenbucher, Carr, Sanjuan, & Park, 2006), suggesting that individuals may wait for problems to arise before contemplating change (Peters et al., 1999) or that individuals may not perceive a harm to reduce. One possible strategy to increase awareness of risks associated with steroid use could be improving screening procedures. In a review of admission notes collected over 1 year, only 14% mentioned steroids in the history of men who had admitted steroid use in a separate interview (Kanayama, Cohane, Weiss, & Pope, 2003). Corroborating this information, in a sample of gay men who had injected anabolic steroids, only 36.4% had ever discussed this with their general practitioner, and although 43.2% of those who had injected had experienced side effects, only one in six of these men discussed these side effects with their provider (Elford, Bolding, Maguire, & Sherr, 2000). It is possible, however, that information from physicians may not be trusted (Pope, Kanayama, Ionescu-Pioggia, & Hudson, 2004), educational material from government organizations may not be viewed as credible (Maycock & Howat, 2005), and the marginalizing of individuals who use steroids may contribute to being less likely to seek advice or supervision about use (Beel, Maycock, & McLean, 1998). Consequently, as a means of reaching individuals who could benefit from making changes in their substance use, Beel and colleagues (1998) suggest that networks within the “steroid subculture” could be utilized as an avenue for delivery of prevention efforts. Furthermore, it will be important to evaluate the trustworthiness, credibility, and believability of information and intervention content. Once under the care of a physician, it has been suggested that a tapering course of medically prescribed steroids could be utilized to prevent some withdrawal symptoms (Trenton & Currier, 2005).

CONCLUSION

In this chapter, we reviewed specific strategies that could be considered to reduce use and related consequences of a range of substances. Substance use and the need for treatment of substance use problems remain the important health issues they were when the first edition of this book was released. As research on harm reduction strategies continues, a wider range of treatment tools is available to providers.

The NSDUH survey (SAMHSA, 2008) described at the beginning of this chapter considers the specific need for and receipt of treatment for a substance use problem at specialty treatment facilities, defined as inpatient hospitals, inpatient or outpatient drug or alcohol rehabilitation facilities, or mental health centers (i.e., emergency rooms, private doctors, self-help groups, prisons, jails, and outpatient hospital settings are excluded). A per-

son “needing treatment” is defined as a respondent who meets past-year criteria for abuse or dependence or who received specialty treatment on their own in the past year. Based on this definition, 23.2 million persons “needed treatment,” and of these, only 2.4 million received treatment at a specialty facility. Consequently, 20.8 million persons “needed treatment” for alcohol or illicit drugs but did not receive treatment at a specialty substance abuse facility in the past year; however, 93.6% of these respondents did not feel that they needed treatment (SAMHSA, 2008). This has significant implications for considering screening, outreach, or prevention efforts to reduce harm before it can have the opportunity to escalate.

Six and a half percent of respondents who self-identified as “needing treatment” but not receiving it indicated that they either did not make an effort to pursue it (4.6%) or made an effort to arrange services and nevertheless did not enter treatment (1.8%). Perceived reasons for not accessing treatment despite perceiving a need for treatment (based on combined data from the 2004–2007 NSDUH surveys) included respondents reporting they were not ready to stop using (38.7%), not having health coverage and not being able to afford the cost (31.1%), worries about possible negative effects on their job (11.6%), not knowing where to go for treatment (11.6%), and concern that getting treatment might cause their neighbors or community to have a negative opinion of them (11.1%). Recall that there were participants who needed treatment and did not receive it despite efforts to arrange care. Among these respondents, more than one-third attributed this to not having health coverage and not being able to afford the cost of treatment (35.9%). Other reasons included not being ready to stop using (26.6%), feeling they could handle the problem without treatment (12.5%), not having transportation or having access to transportation options seen as inconvenient (10.5%), fear that accessing treatment might cause neighbors or other community members to have a negative opinion of them (8.9%), perceiving that there was no program having the type of treatment they were looking for (8.1%), having concern about a negative impact on their job (7.0%), and not knowing where to go for treatment (6.9%) (SAMHSA, 2008). With a focus of harm reduction including an emphasis on reducing or lowering the threshold on access to services, it is worthwhile to consider these perceived barriers as we consider harm reduction approaches for the people using these substances.

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CHAPTER 7



Harm Reduction for High-Risk Sexual Behavior and HIV

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Sexual transmission is the leading route by which the human immunodeficiency virus (HIV) is spread throughout the world. HIV, its transmission, course, and progression to acquired immune deficiency syndrome (AIDS) are well understood. The virus is spread through blood and other bodily fluids. Immediately following infection, the individual may experience flu-like symptoms. For several months immediately following infection there is a significant spike in viral load levels (Fauci, Pantaleo, Stanley, & Weissman, 1996). During this period the likelihood of transmission is greatly increased and it is during this period when as much as half of HIV transmission may occur (Koopman et al., 1997). After the initial period of infection the individual experiences a long asymptomatic period, often unaware of HIV serostatus.

The number-one factor in sexual risk reduction is the knowledge of HIV status among people who are HIV-positive. The vast majority of people living with HIV/AIDS in low-income countries are unaware that they are infected. It is estimated that as many as 90% of HIV-infected individuals worldwide are unaware of their serostatus (Kamya, Wanyenze, & Namale, 2007). In the United States alone, approximately 25% of HIV-

positive individuals are undiagnosed and unaware of their infection (Glynn & Rhodes, 2005). Between 54% and 70% of sexual transmissions of HIV may be via individuals unaware of their HIV status (Marks, Crepaz, & Janssen, 2006). Lack of awareness of one's HIV infection often results in failure to take the necessary steps to protect partners from HIV infection. In the United States, individuals who are HIV-infected but unaware are 3.5 times more likely to transmit HIV than people who know their status (Marks et al., 2006). In addition, individuals who are infected but unaware of their status cannot access and benefit from HIV treatment. Approximately 40% of individuals diagnosed with HIV in the United States are diagnosed within 1 year of developing AIDS, when it may be too late for them to fully benefit from treatment (Centers for Disease Control and Prevention [CDC], 2006).

In addition to knowledge of one's HIV serostatus (through HIV testing), there have been other sexual risk reduction efforts that have been proven effective. These include individual and small-group efforts, community-level efforts, and social marketing. Specific activities that have shown promise are behavior change programs (increasing condom availability and use, delay of initiation of sexual behavior in young people, and reducing number of partners), biomedical interventions (to reduce infectivity), promotion of prevention technologies (condom promotion; HIV testing, diagnosis, and treatment of sexually transmitted infections [STIs]; male circumcision), and policy changes to create social and physical environments that are less conducive to HIV transmission.

This chapter provides an overview of sexual risk reduction interventions that have been effective in populations at highest risk. It is beyond the scope of this chapter to provide information for all sexual risk reduction efforts. There is a vast literature addressing these efforts. For readers who require greater detail and more specific information on particular risk reduction efforts, references to this literature are made throughout the chapter.

THE HISTORY OF HIV/AIDS SEXUAL RISK REDUCTION

Prior to discussing sexual risk reduction in detail, a brief history of sexual risk reduction perceptions and strategies is warranted. Early in the HIV/AIDS epidemic, harm reduction strategies focused almost exclusively on reducing the risk of HIV transmission through drug use. Sex as a transmission route was largely ignored, as was the intimate connection between substance use and sexual activity for many high-risk populations.

Early in the epidemic risk was discussed in terms of "risk groups," determined by the individual characteristics of those identified as being infected with HIV or presenting with AIDS. These groups comprised homosexuals, intravenous drug users (IVDUs), Haitians, and hemophiliacs.

Defining groups and identifying individuals based on identity not behavior would result in a severe misrepresentation of risk. When knowledge of HIV transmission through blood, breast milk, and genital secretions was achieved the focus shifted from risk groups to risk behaviors.

After the development of the HIV test, uninfected individuals engaging in high-risk behaviors were almost exclusively the focus of risk reduction efforts. As medications and treatments to combat opportunistic infections associated with AIDS and to reduce the risk of death among infected individuals developed, intervention efforts began to target infected individuals. The development of more effective drugs (protease inhibitors) and the advent of combination therapy (pairing new drugs with older antiretroviral drugs) decreased mortality and significantly improved quality of life for infected individuals. Current medication regimens, known as antiretroviral therapy (ART), usually include combinations of one or two nucleoside analogues (NRTI) and a protease inhibitor (PI) or a non-nucleoside reverse transcriptase inhibitor (NNRTI) (Panel on Clinical Practices for Treatment of HIV infection, 2006; www.AIDSinfo.nih.gov).

Primary and Secondary—*Not* Primary or Secondary—Prevention

Historically, primary and secondary HIV/AIDS prevention efforts have been viewed as separate and unconnected. Primary prevention (or risk reduction) focuses on identifying risk behaviors, and efforts are designed to reduce the risk of infection before illness occurs. Uninfected individuals have been the focus of primary risk reduction efforts that target individual behavior (abstinence, condom use, HIV education, individual change). Secondary prevention (or risk reduction) efforts, initiated after infection occurs, are designed to reduce the risk of further morbidity and mortality associated with illness. Secondary prevention efforts have historically focused on medical interventions for infected individuals (prophylactic medication, antiretroviral therapy, treatment of opportunistic infections, hospitalizations) to reduce mortality. This dichotomy in risk reduction efforts persisted for over a decade with no efforts to bridge the two populations.

More recently, prevention efforts, whether primary or secondary, focus on HIV-positive as well as uninfected individuals. Secondary prevention efforts have expanded to include the early identification and treatment of uninfected high-risk individuals. These efforts underscore the importance of being aware of the availability of effective treatments prior to infection and understanding that treatments are most effective in assisting the immune system and maintaining a lower viral concentration in blood and semen when initiated early. Early treatment functions as both primary and secondary prevention in that the potential for transmission is lowered. In addition, uninfected individuals will be able to recognize symptoms of initial infection and know where and how to get treatment needed.

It is now commonplace that HIV primary risk reduction is needed for HIV-positive individuals in the form of promoting health maintenance behaviors that help individuals avoid co-infection (using condoms, abstinence, HIV education, avoiding STIs). Reducing the risk of the development of drug-resistant strains of HIV through HIV medication adherence is an effective form of primary risk reduction. ART is very effective in reducing the amount of circulating HIV virus as well as increasing the CD4 lymphocyte cell count. This level of effectiveness has transformed HIV infection from a fatal disease to a chronic disease. Increasing HIV medication adherence reduces the risk that drug-resistant viruses will be transmitted. It also reduces infection rates by dramatically lowering an individual's viral load, resulting in decreased concentration of the virus in blood and bodily fluids (Baeten & Overbaugh, 2003).

ART therapies, however, are often complicated, require dietary restrictions, and may have serious side effects. Moreover individuals prescribed ART regimens must maintain near-perfect adherence (approximately 95% of all prescribed doses) to prevent opportunistic infections and hospitalizations (Paterson et al., 2000). The level of adherence required for other chronic illnesses is closer to 80%. Education is of great importance when explaining adherence to individuals. It must be understood that while ART is very effective, it does not completely eradicate the virus. An undetectable viral load and improved health does not signal that the virus is dead or that the individual is no longer HIV positive. Individuals are still capable of transmitting HIV and must continue to be motivated to use condoms or other risk reduction behaviors.

The practice of safer sex by HIV-positive individuals is critical for both the individual and their partners. Secondary risk reduction behaviors initiated by HIV-positive individuals act simultaneously as primary risk reduction for uninfected individuals. Efforts to provide HIV-positive individuals with information and education about risk reduction practices (abstaining from risky behaviors, reducing number of sexual partners, using condoms and other latex barriers) is an effective method of both primary and secondary prevention.

HARM REDUCTION AS AN HIV/AIDS INTERVENTION

Many strategies exist for HIV risk reduction that target specific sexual acts (use of barrier contraception; engaging in sexual activities that do not involve exchange of blood, semen, or vaginal secretions; reducing engagement in sexual acts at highest risk of transmission, such as unprotected anal sex), sexual partner concerns (negotiating condom use, monogamy, reducing number of sexual partners, partner testing, enhancing partner communication and sexual negotiation, parenting workshops, relation-

ship building), and addressing intrapersonal and situational antecedents of risky sex (e.g., treating anxiety and depression, intimate partner violence [IPV], reducing alcohol and drug use). In addition, HIV risk reduction can include: increasing knowledge about HIV and STIs; promoting a better understanding of the physical symptoms and outcomes of untreated STIs; and increasing awareness of testing and treatment options.

VULNERABLE POPULATIONS

While the HIV/AIDS epidemic has received a great deal of attention, much of the recent attention has been focused on access to treatment. Efforts to reduce the rates of infection (prevention efforts) have become stagnant or waned. Although access to ART has improved greatly, for every individual who initiated ART in 2006, six other individuals became infected with HIV (UNICEF, 2007). Worldwide prevention services reach only 9% of men who have sex with men and 8% of injection drug users. In addition, the large majority of people living with HIV remain unaware of their infection, and millions of blood donations annually are not properly screened for HIV (UNICEF, 2007). If current trends continue it is estimated that 60 million more HIV infections will occur by 2015, and the annual number of new HIV infections will increase by 20% or more by 2012 (UNAIDS, 2007).

Worldwide, the AIDS epidemic burden is heaviest on groups that are poor, disenfranchised, and/or socially marginalized. Economic and social factors fueling the epidemic, namely poverty, gender inequality, stigma, discrimination, homonegativity, and social marginalization, have yet to be effectively addressed. Until these social and contextual issues are addressed many of the individuals and communities in greatest need will not receive the sexual risk reduction strategies and tools necessary to protect themselves. Moreover, the existing preference for law enforcement over public health approaches in addressing drug use negatively impacts access to and utilization of proven HIV prevention strategies for drug users. In addition, throughout the world the criminalization of both sex work and sex between men continues to act as a barrier to effective sexual risk reduction strategies.

Men Who Have Sex with Men

The term *men who have sex with men* (MSM) was coined in the early 1990s to be a less pejorative, behaviorally accurate term, which is used to describe men who engage in sexual activity with other men, regardless of self-identified category of straight, gay, bisexual, queer, homosexual, homophile, questioning, two-spirit, down-low, or other self-defined sexual

label (Young & Meyer, 2005). The term MSM has now become widely used in the HIV literature to refer to a group at higher risk for infection primarily due to their sexual risk-taking behavior. It should be noted that MSM is not a mutually exclusive category and does not exclude men from also having sex with women. Several published studies from countries around the world have found that a fair amount of MSM have also engaged in sex with women, thereby increasing the potential for spreading HIV infection (Baral et al., 2011; He et al., 2006; Hemmige et al., 2011; Taylor et al., 2011).

The most recent report from the Centers for Disease Control and Prevention estimates that in 2006, MSM accounted for 57% of all new HIV infections among adults and adolescents in the United States. Outside the United States the rates of HIV and AIDS infections among MSM have been difficult to estimate, given the difficulty in reaching this sample due to stigma, criminalization of the behavior, institutional/cultural barriers, and/or a lack of self-identification (Baral, Sifakis, Cleghorn, & Beyrer 2007). Despite these barriers in conducting comprehensive epidemiological research with MSM populations internationally, Baral and colleagues (2007) conducted the first meta-analysis of HIV infection rates based on 83 studies from 36 low- and middle-income countries. The results suggested that compared to the general adult population of reproductive age the odds of having HIV infection were higher among MSM populations across Asia, Africa, the Americas, and the former Soviet Union. While it appears that MSM are disproportionately affected by HIV it is estimated that fewer than 1 out of 20 men around the world have access to HIV prevention, treatment, and care (UNAIDS, 2007). The lack of services targeting MSM has been viewed as one of the reasons for the spread of the virus and increases in infection rates in most countries.

A number of factors have been identified with increasing sexual risk-taking associated with HIV infections among MSM. One of the most significant risk factors for MSM is unprotected anal sex with casual partners. Research examining contributing factors related to the increase in unintentional unprotected anal sex has also identified substance use (Mansergh et al., 2008; Plankey et al., 2007), optimistic view of HIV treatments (Brennan et al., 2010; Mackellar et al., 2011), safer sex fatigue (Ostrow et al., 2008), Internet usage (Chiasson et al., 2007; Grov, Golub, & Parsons, 2010; Rosser et al., 2009), and believing that HIV is no longer a serious health threat (Makellar et al., 2007).

During the early history of the AIDS epidemic, shortly before the discovery of the virus responsible for transmitting HIV, the use of condoms was the primary prevention message targeting the MSM community. Starting in the latter half of the 1990s epidemiological data suggests an increase among MSM in intentional unprotected anal sex despite their knowledge of possible HIV infection. There has been an intense focus by those outside and inside the gay community regarding the increasing rates of intentional

or voluntary unprotected anal sex, typically called barebacking, raw, or natural sex (Gauthier & Forthy, 1999; Halkitis et al., 2005; Holmes & Warner, 2005). Health care and prevention experts have become perplexed by the intentional lack of protecting one's self from infection. Researchers have begun to investigate the motivations behind individuals who, despite their knowledge of the risks associated with exposure to semen, knowingly place themselves at risk. Several factors have been identified as contributing to barebacking, including higher rates of substance use (Chiasson et al., 2007; Donovan & Wells, 2007; Halkitis, Parsons, & Stirratt, 2001; Holtgrave, Crosby, & Shouse, 2006; Kubicek et al., 2007) with alcohol, crystal methamphetamine, and other "club drugs" being strong predictors of unprotected anal intercourse; beliefs that latest HIV medications reduce HIV to a chronic illness rather than viewing an HIV diagnosis as a "death sentence" (Cherry & Smith, 1993); negative attitudes toward condoms (Appleby, Miller, & Rothspan, 1999; Flowers, Smith, Sheeran, & Beail, 1997; Odets, 1994); internalized homophobia and racism (Canin, Dolcini, & Adler, 1999; Meyer & Dean, 1998; Ramirez-Valles, 2002); and fatalistic views on one's inevitability of HIV infection (Kalichman, Kelly, & Rompa, 1997; Kelly et al., 1990). Sociological and psychological studies have suggested that some MSM engage in barebacking experiences because of the importance in assigning sexual meaning of connectedness with one's partner through the transmission of semen. Qualitative research suggests that barebacking or natural sex leads to desired psychological and/or spiritual connectedness with one's sexual partner that would be dampened by the use of condoms and/or other safer sex practices (Holmes & Warner, 2005; Ridge, 2004).

In response to the increasing rates of unprotected anal sex, several AIDS/HIV prevention and health care experts have begun to suggest and empirically examine harm reduction techniques in sexual risk behavior. This is not without controversy, given that harm reduction philosophically and practically could suggest strategies that could lead to HIV exposure. A harm reduction approach to safer sex for MSM views sexual behavior as existing along a continuum from abstinence to completely unprotected anal sex. However, the science to how risky is "risky" is debatable and in some cases has yet to be evaluated. Another harm reduction principle of central importance to this topic is personal autonomy, the belief that engaging in any behavior is a matter of choice or free will. Keeping these two harm reduction principles in mind, a harm reduction approach to safer sex views any reductions in risk as a step in the right direction.

Only recently has research data examined the differential risks associated with different sexual behaviors. Oral sex is one of the most controversial areas of sexual risk behavior and HIV transmission (Worlitski & Branson, 2002). It is widely considered a lower risk of HIV transmission compared to unprotected anal sex, but the actual risk has been hard

to calculate (Worlitski & Branson, 2002). There are documented cases of transmission of HIV through oral sex (for reviews, see Rothenberg, Scarlett, del Rio, Reznik, & O'Daniels, 1998). Page-Shafer and colleagues (2002) examined the data from 239 HIV-negative MSM who practiced exclusive fellatio in the past 6 months. One-third of the sample reported getting semen in their mouths, and of those 70% reported swallowing their partner's ejaculate. A smaller proportion of the sample (28%) had knowingly engaged in oral sex with an HIV-positive partner(s), and of those 81% did not use condoms. Using population-attributable risk calculations, they estimated the percentage of contracting HIV from oral sex for one to three fellatio partners to be 0.74%, which was considered to be quite low, and the risk increases as the number of partners increases. While the risk of HIV transmission is low, there is potential for becoming infected if the person performing oral sex has cuts or sores in his or her mouth or throat. The potential also increases if the recipient ejaculates into the mouth of the person performing oral sex and if the partner is HIV-positive or the HIV status is unknown.

The riskiest sexual behavior that MSM engage in is considered to be unprotected anal intercourse (UAI). Recently, several studies have begun deconstructing the act of UAI to the multiple permutations of the act itself in order to evaluate the associated risks of HIV transmission. Several studies have been framed as potential harm reduction strategies should a person choose to engage in unprotected anal sex. Research has begun focusing on factors such as partner status (regular/casual; negotiated safety), HIV status (serosorting; viral load status), sexual positioning (insertive/receptive), and withdrawal prior to ejaculation. The goal of each strategy is to decrease HIV transmission while acknowledging that there is still potential for transmission with these associated behavioral strategies.

Serosorting, or having sex only with people who match your own infection status, requires knowledge of one's HIV status. The process involves discussing and engaging in unprotected sexual intercourse with individuals who have concordant HIV status. Serosorting has been reported in England, Australia, and the United States (Elford, Bolding, Sherr, & Hart, 2007; Jin et al., 2007; Parsons et al., 2006). The prevalence of this strategy appears to differ among men based on their HIV status such that HIV-positive men tend to use this strategy more than HIV-negative men when finding casual sexual partners (Elford et al., 2007; Parsons et al., 2006). A study from England examined the rates of serosorting between HIV-negative and HIV-positive gay men in London between 1998 and 2005 and found that serosorting by HIV-positive men had more than doubled as a utilized strategy from 6.8% of the sample in 1998 to 17.7% of the sample in 2005 for unprotected anal intercourse. HIV-negative men did not show a significant trend in using serosorting strategy across the period of 1998 and 2005, however; there was a significant increase of unprotected anal intercourse

of unknown or discordant HIV status. In a study from Sydney, Australia, Mao and colleagues (2006) did find that HIV-negative men increased their use of this strategy with casual partners from 2002 through 2005. This raises concerns for HIV experts, given that serosorting by HIV-negative men could result in increased infection rates, since the effectiveness of this strategy has yet to be demonstrated and knowledge of an individual's HIV status could be based on assumption (Jin et al., 2007).

The risks posed by serosorting differ among concordant HIV groups. For HIV-positive men, serosorting is believed to allow men to lower their anxiety of passing on the virus to a partner who is already infected and thereby making the sex more satisfying and reduce harm. However, HIV-positive men who use serosorting strategies risk passing on other STIs, from which immunosuppressed individuals are at greater risk of developing serious complications. For example, viral STIs (including hepatitis A, B, or C; herpes simplex 2; and human papillomavirus) and bacterial STIs (e.g., gonorrhea, chlamydia, and syphilis), all transmissible through unprotected sex, can produce more severe symptoms in HIV-positive people. The other issue of concern is the potential risk of dual infection or superinfection of new strains of HIV (Smith et al., 2004). The concerns about superinfection of HIV are that subsequent recombination of virus strains could produce more drug resistance, virulence, or compromise the effectiveness of protease inhibitors and other drug therapies (Cohen & Fauci, 1998). These concerns are often neglected in presenting potential health threats to seroconcordant couples who engage in unprotected sexual behaviors because much of the prevention focus has been on avoiding transmission of the virus to HIV-negative sex partners (Halkitis, Parsons, & Wilton, 2003).

Serosorting as a harm reduction strategy is predicated on honest self-disclosure of one's HIV status. This strategy also assumes knowledge of current HIV status at a given time, yet data suggest that almost half of MSM, when testing positive, did not realize they were infected at the time of testing (CDC, 2010). The potential risks of serosorting among HIV-negative men are also great, given that an inaccurate sort could result in HIV infection. In a study conducted in Melbourne, Australia, 102 recently diagnosed HIV-positive MSM were asked to identify the sexual encounter they believed led to their HIV infection and the sexual practice they engaged in at that time. Twenty-one percent identified using serosorting strategy and reported being infected by a partner who reported being HIV-negative. This demonstrates the greatest potential problem of serosorting—inaccurate information regarding a partner's serostatus (Parsons et al., 2005).

When using other harm reduction behavior such as strategic positioning, withdrawal before ejaculation, and viral load status to minimize potential HIV infection, MSM tend to vary their behavior based on familiarity with the sexual partner, such that these practices are most often used with familiar sex partners (Jin et al., 2007; Parsons et al., 2005). Strategic

positioning of unprotected intercourse places the HIV-positive partner in the receptive position and HIV-negative partner in the insertive position. The rationale of those using strategic positioning is that the HIV-positive partner who has already seroconverted needn't worry about HIV exposure, and the insertive position is less likely to contract HIV. The data on positioning and withdrawal strategies are limited and hard to untangle, given that a typical sexual encounter can vary with partner, mood, and the negotiation between the persons involved. Rarely does a sexual encounter only consist of one type of sexual behavior, but rather can comprise multiple acts that could lead to HIV exposure. One study that examined the use of these harm reduction strategies in U.S. cities among HIV-positive gay and bisexual men found that the men reported limited unprotected sex with HIV-negative partners (serosorting), more acts as the receptive partner (strategic positioning), and more oral and anal sex using withdrawal rather than ejaculation (Parsons et al., 2005).

The use of viral load status as a harm reduction method typically indicates increased familiarity among sex partners, as partners must negotiate receptive anal intercourse. The strategy applied is that a negative partner would allow his HIV-positive partner to take the insertive position if the positive partner had a low or undetectable viral load. Utilizing viral load status as an indicator of sexual positioning can still lead to HIV transmission. One small Australian study of newly diagnosed HIV-positive men indicated 20% of the sample used viral load information in making the decision to engage in unprotected sex. Of those 21 men, nine reported that their partner had an undetectable viral load at the time of unprotected receptive anal intercourse, six indicated their partner had a low viral load, and six indicated their partner had medium to high viral load status, which they believe led to their HIV seroconversion (Jin et al., 2007). The evidence suggests that this is a highly risky behavior, and couples engaging in this behavior should be aware that undetectable viral loads may not lower the risk of infection. Viral load test results could provide a false sense of security in deciding sexual risk taking.

The emerging trend on the research is to take a harm reduction approach with MSM in the area of sexual health. The current research is addressing what has been termed by Wolitski and Branson (2002), as the "gray-area behaviors," which take a more pragmatic and nonjudgmental approach in attempting to categorize and calculate sexual behavior in a way to promote healthier sexuality for MSM.

Women

According to the latest UNAIDS AIDS Epidemic Update (2007), worldwide there are approximately 33.2 million individuals living with HIV, almost half (15.4 million) of whom are women. Women of color are disproportion-

ately affected by HIV infection and AIDS. Within the United States women comprised 26% of all new HIV/AIDS diagnoses in 2005. High-risk heterosexual contact was the source of 80% of these new infections (CDC, 2007). In addition, women comprise the fastest-growing group of individuals with AIDS. AIDS is the third leading cause of death in women ages 25–44 and the leading cause of death in African American women ages 25–34 in the United States (CDC, 2007). Worldwide, women are often diagnosed later in the disease and as such may not benefit from ART. Even when HIV-positive women do acquire access to ART, the high level of adherence necessary is difficult and often impossible to achieve due to poverty, perceived powerlessness, caregiver burden, and stigma (Zorilla, 2000).

Gender inequality and the resulting low status of women increase the risk of HIV exposure for this vulnerable population. Women throughout the world experience difficulty accessing essential information and services, diminished ability to negotiate safer sex with partners on whom they may be economically dependent, and increased risk of being victimized by sexual violence. For some women, disclosure of HIV status to partners is avoided because of fear of violence or abandonment; thus, many women may not insist on condom use when a partner refuses (Zorilla, 2000). Moreover, many women are placed in circumstances where sex may be their only viable option for survival. In their meta-analysis of HIV prevention interventions for heterosexual women, Logan, Cole, and Leukefeld (2002) found that the interventions had little impact on sexual risk behavior. They argue that addressing social and contextual factors may be more pertinent in efforts to reduce sexual risk among women.

The need to address social and contextual factors that affect risk for women has led to a departure from traditional theories that focus on the individual and refer to general social influences (e.g., theory of self-efficacy, the health belief model, the reasoned action model). Recent interventions targeting women, particularly women of color, have utilized theories that focus attention on both individual and social environmental factors and are directed at changing interpersonal, organizational, and community factors. Two theories that have been effectively utilized in interventions among women of color in the United States are the ecological systems theory (Bronfenbrenner, 1979) and the theory of gender and power (Connell, 1987).

Despite current social and contextual forces, there are several effective risk reduction strategies for women. In their meta-analysis, Mize, Robinson, Bockting, and Scheltema (2002) found that the most effective sexual risk reduction programs for women were those that included multiple sessions, were specifically designed for women, and focused on building good relationship and negotiation skills. Interventions focused on improving communication, strengthening relationships, and increasing the bond between mothers and their daughters have also been effective in reducing sexual risk among adolescent and young adult girls (Aronowitz, Rennells, & Todd,

2005; Dancy, Crittenden, & Talashek, 2006; Hutchinson, Jemmott, Jemmott, Braverman, & Fong, 2003). Culturally competent interventions with peer and social support components as well as skill building (e.g., effective use of a condom) (DiClemente & Wingood, 1995; Wingood et al., 2004) have been successful in reducing sexual risk among women. In addition, successful interventions have addressed the differences in power between men and women; gender roles; issues of class, ethnicity, and culture; and gender and ethnic pride (Raiford, Wingood, & DiClemente, 2007; Wyatt et al., 2004).

The development of alternative HIV prevention options for women has recently emerged as a sexual risk reduction strategy. Currently, the only options for the reduction of sexual risk among women are the condom and the female condom. Research and development of microbicides is underway. This research may lead to options wherein women have the power of choice in sexual interactions. Although no microbicide products are available yet, if available microbicide products (gels, creams, suppositories, and films) would provide women with a means to prevent the sexual transmission of HIV and other STIs. They are applied directly onto the vaginal area and worked in a variety of ways, from maintaining acidity in the vagina to binding to viruses and bacterias to prevent them from binding to and infecting healthy cells (World Health Organization, 2007).

Sexual risk reduction methods that can be utilized by women without the involvement or knowledge of one's sexual partner are vital. This is of particular importance for women who are in vulnerable situations, including marriages and long-term relationships wherein using a condom may imply infidelity. Moreover, developing effective prevention methods for women may reduce the practice of vaginal washing (douching with soap, lemon juice, bleach), a practice often used by women to "clean" themselves after sexual intercourse to prevent an STI (McClelland et al., 2006). Not only are these methods ineffective, but they may also increase the risk of infection by compromising protective vaginal flora. Increased efforts to reduce sexual risk among women are crucial, as are efforts to identify alternative options that place risk reduction decision in women's control.

Inmates

More than 9 million people are held in penal institutions throughout the world. Almost half of these are in the United States, China, and Russia. The United States has the largest population of incarcerated individuals in the world, approximately 714 per 100,000 of the national population (Walmsley, 2005). From June 2005 through June 2006, the number of inmates in prisons and jails in the United States increased by almost 3% to reach 2,245,189. Racial and ethnic minority members, particularly African

Americans, Latinos, and Native Americans, are disproportionately represented in the criminal justice system. In recent years the number of female prisoners has risen at a faster rate than the number of male prisoners. Black women represent the large majority of female inmates, with prison or jail incarceration rates nearly four times that of white women and more than twice the rate of Hispanic women (U.S. Department of Justice, 2007).

The prevalence of HIV/AIDS in state and federal prisons is approximately five times higher than among the general U.S. population (Maruschak, 2001; Ross, 2001). While incarcerated, inmates are at increased risk of HIV transmission through tattooing, needle sharing, and consensual as well as nonconsensual sex. Nonconsensual sex is a systemic problem within the United States prison system, a problem that prison authorities do little to address (Human Rights Watch, 2001). Overcrowding in prisons has led to a "revolving door" experience of the criminal justice system where men go from an area of high HIV prevalence back into the community.

Incarceration also negatively affects the partners of inmates and subsequently increases their sexual risk of HIV infection. Often female partners of inmates are the victims of social stigma, experience economic hardship due to the loss of their partner's income, and experience loss of connection with family and friends. These experiences often sever the woman's social support network and increase her reliance on the incarcerated partner. The emotional strain of having an incarcerated partner and the resulting social and economic hardship are associated with increased HIV risk taking (Comfort, Grinstead, Faigles, & Zack, 2000). Many women believe that HIV testing in prisons is mandatory and that their partners will be tested once incarcerated, and think that they would be informed if their partner had tested seropositive (Comfort, et al., 2000; Harman, Smith, & Egan, 2007).

A little-researched area is the high-risk sexual behavior between inmates and correctional officers. Sexual relations between prisoners and correction officers are common and have many implications for transmission beyond the prison walls. More research is needed on the nature, extent, and consequences of high-risk sexual behavior between prisoners and correctional officers.

Sexual risk reduction efforts for inmates have included: the provision of condoms and lubricant (essential for safer anal sex with a condom); the availability of regular and quality screening, testing, and ongoing health care that continues when the inmate is transferred or released into the community; transition to society plans; and educational workshops for inmates and their partners. Harm reduction must also tackle larger systematic problems such as addressing sexual abuse among men and education regarding the association between abuse and riskier sexual behavior (greater diffi-

culty controlling sexual feelings, hypersexuality); addressing overcrowded conditions and the escalating prison population; and routine screening for STIs, which also can give insight into the problem of STIs in the prison population.

Although the criminal justice system in most countries has been reluctant to implement harm reduction strategies, there is a great deal of evidence supporting the feasibility and efficacy of HIV/AIDS harm reduction programs within prisons and jails. One example is the work that has been done in Iran. In Iran, the HIV epidemic is primarily driven by injection drug use, which is prevalent in the inmate population. To address this, Iran has dramatically expanded access to HIV prevention, treatment, and care services for drug users. At the end of 2006, HIV clinics were operating in one-third of all prisons in Iran, and methadone substitution therapy was reaching 55% of all prisoners in need (UNICEF, 2007).

Sex Workers

Sex workers have some of the highest HIV infection rates in the world. The prevalence of HIV infection among tested populations of sex workers varies geographically, from a low of 1.4% among women studied between 1998 and 1999 in Guangzhou, China, to a high of 73.7% among women studied in 1998 in Addis Ababa, Ethiopia (Aklilu et al., 2001; van den Hoek et al., 2001). Currently global prevention services reach under 20% of sex workers (Global HIV Prevention Working Group, 2007). Although prostitution involves sex workers and clients, most research has targeted only the sex workers as vectors for the spread of HIV. Little is known about the demographics and risk behaviors of the clients of sex workers. More research is needed in this area, including a greater focus on sexual networks of sex worker clientele.

For sex workers, how the sex work is organized determines whether it introduces harm, increases the vulnerability of sex workers, or allows sex workers to benefit from sex work (Sanders, 2004). Risk reduction during sex worker exchanges is largely determined by availability of barrier methods and the motivation of the sex worker and the client. Sex workers in brothels and other organized settings where condoms are available and use is encouraged are more likely to report a high utilization of barrier protection (UNAIDS, 2002). In environments where condom use is not encouraged, the client, who is the one providing payment, often determines the outcome. Clients rarely insist on using condoms, and some may refuse the transaction and/or threaten physical violence if the sex worker insists on using condoms.

Harm reduction programs for sex workers have utilized peers and have focused primarily on the provision of condoms, social support, and

education (Chiao, Morisky, Ksobiech, & Malow, 2008; Fung et al., 2007; Luchters et al., 2008). For sex workers housed in brothels, encouraging and promoting condom use as well as facilitating regular STI check-ups has been effective. Brothel-based clinics providing STI treatment for sex workers positively influence health-seeking behaviors, health awareness, and condom use (Stadler & Delaney, 2006). These sexual risk reduction methods have resulted in reductions in HIV prevalence among sex workers (Crosby, 1997; Kerrigan et al., 2003). In addition, training and utilizing sex workers as health educators for men who buy sex has proven a successful strategy for sexual risk reduction (Elly, Aisa, Ananag, Janet, & Rabia, 2000; Leonard et al., 2000; Sanders, 2005).

For sex workers, sexual risk reduction often includes substance abuse risk reduction. With high rates of drug use, sex is more likely to be unprotected. Among sex workers, crack use accounts for a higher prevalence of heterosexual transmission of HIV (Edlin et al., 1994). This is largely due to the increased rate of high-risk sexual practices of crack smokers.

Additional harm reduction efforts have focused on advocating for policy effecting contextual variables affecting vulnerable populations including poverty, gender inequality, and lack of opportunity—factors that may limit an individual's options to the exchange of sex as a means of survival. Other proposed harm reduction interventions for sex workers have been advocacy for the legalization or decriminalization of prostitution and subsequent human and employment rights for sex workers.

Adolescents and Young Adults

Adolescence is a period of remarkable developmental change, and a part of the normative experience is experimentation and risk taking, including in their sexual behaviors (Arnett, 2000; Donovan & Jessor, 1985). The Centers for Disease Control and Prevention (2006) reported 40,049 cumulative cases of AIDS among people ages 13 to 24 through 2004. Since the epidemic began, an estimated 10,129 adolescents and young adults with AIDS have died, and the proportion diagnosed with AIDS has also increased. Likewise, the proportion of adolescents and young adults with an AIDS diagnosis has increased from 3.9% in 1999 to 4.2% in 2004.

Moreover, African American and Hispanic adolescents have been disproportionately affected by the HIV/AIDS epidemic. Between the ages of 13 and 19, African Americans and Hispanics accounted for 66% and 21%, respectively, of the reported AIDS cases in 2003. Because the average duration from HIV infection to the development of AIDS is 10 years, most adults with AIDS were likely infected as adolescents or young adults. In 2004 an estimated 4,883 were diagnosed with HIV/AIDS, while an esti-

mated 18,293 were living with HIV/AIDS. However, health experts estimate the number of adolescents and adults living with HIV infection to be much higher (Walcott, Meyers, & Landau, 2008).

Most HIV-infected adolescents and young adults are exposed to the virus through sexual intercourse. Recent HIV surveillance data suggest that the majority of HIV-infected adolescent and young adult males are infected through sex with men. Only a small percentage of males appear to be exposed by injection drug use and/or heterosexual contact. These data also suggest that adolescent and young adult females infected with HIV were exposed through heterosexual contact, with a very small percentage through injection drug use (CDC, 2006).

Abstinence-Only Sex Education as a Barrier in Adolescent Harm Reduction Programs in the United States

In the United States sexuality continues to be a sensitive topic. The sensitivity of this topic is magnified when discussion of sexuality occurs in the context of adolescents and emerging adults. The debate of sexual education in public school began in the early 1960s and continues to be a polarizing issue among conservatives and liberals within the country (see Irvine, 2002, for a historical account of the implementation of sex education in the United States).

In the mid-1980s the majority of public opinion began to support sex education in schools typically in response to the rising teen pregnancy rates occurring at the time. Many social conservatives feeling the public pressure to mandate sex education in the classroom had decidedly considered the battle over sex education lost, but vowed not to lose the war. By way of changing tactics the social conservatives refocused their attention to define the content of sex education programs, and using their tremendous political clout during the 1980s promoted and legislated abstinence-only sex education at both the local and federal levels.

Currently there are three federal laws that mandate abstinence-only sex education programming and they are: Title XX of the Public Health Service Act, which created the Adolescent Family Life Act, passed in 1981; Title V, Section 510, of the Social Security Act passed in 1996; and Title XI, Section 1110, of the Social Security Act passed in 2000. As seen in Table 7.1, Title V of the Social Security Act defined abstinence-only education. In 2007 the U.S. federal government spent \$176 million on abstinence-only educational programming (Kantor, Santelli, Teitler, & Balmer, 2008).

To be clear, abstinence has never been counter to harm reduction principles. Rather, harm reduction attempts a pragmatic and individualized approach to problems, whereas mandating abstinence-only is a one-size-

TABLE 7.1. Definitions of Abstinence-Only Education under Section 510 of the Social Security Act of 1996

Under Section 510, abstinence education is defined as a educational or motivational program that:

- (A) has its exclusive purpose teaching the social, psychological, and health gains to be realized by abstaining from sexual activity;
- (B) teaches abstinence from sexual activity outside marriage as the expected standard for all school-age children;
- (C) teaches that abstinence from sexual activity is the only certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other associated health problems;
- (D) teaches that a mutually faithful monogamous relationship in the context of marriage is the expected standard of human sexual activity;
- (E) teaches that sexual activity outside of the context of marriage is likely to have harmful psychological and physical effects;
- (F) teaches that bearing children out-of-wedlock is likely to have harmful consequences for the child, the child's parents, and society;
- (G) teaches young people how to reject sexual advances and how alcohol and drug use increase vulnerability to sexual advances; and
- (H) teaches the importance of attaining self-sufficiency before engaging in sexual activity.

fits-all approach to sex education. Harm reduction principles posit that young people have personal autonomy and ultimately will make their own decisions about what they will do, with whom they will do it, and when they will become sexually active. Harm reduction advocates have problems with the dogmatic “only” in the abstinence-only education. Inherent to anything using the modifier “only” limits the ability to meet an individual “where they are at” in their sexual development. An “only” mandate imposes a rigid approach to a problem, and in the case of abstinence-only sex education, data suggest it is ineffective at best and at times harmful to the very youth it is espoused to protect (Kantor, Santelli, Teitler, & Balmer, 2008; Kirby, 2007).

The current federal funding mandates have codified “abstinence-only” educational programming and pose a barrier to providing comprehensive sex education more in line with a harm reduction approach. In order to overcome these barriers several states have refused federal Title V funding for abstinence-only programming. Several of these states have evaluated the data on abstinence-only programming and decided that they are ineffective and/or voiced their concern over medically inaccurate information provided in abstinence-only programs (Raymond et al., 2008). These states

base their decisions on the small body of research evaluating abstinence-only sex education programs. These data suggest the outcome effects did delay sexual intercourse by teens at the 3-month outcome, but effects appeared to dissipate by the 6-month assessment (Raymond et al., 2008).

It was not very long ago that public opinion supported abstinence-only sex education for adolescents in public schools; however, there has been a shift in the public opinion. A recent study that examined U.S. adult attitudes for sex education found approximately 82% indicated support for programs that teach students about both abstinence and other methods of preventing pregnancy and STIs. Similarly, 68.5% supported teaching how to properly use condoms. Abstinence-only education programs, in contrast, received the lowest levels of support (36%) and the highest level of opposition (about 50%) across the three program options regardless of political ideology. Despite the changing opinions by a majority of Americans, the current federal government policies dictate that only abstinence-only education in public schools receives federal dollars.

Harm Reduction Strategies Targeting Adolescents

Adolescent harm reduction strategies for HIV prevention are similar to adult programs discussed throughout this chapter. Harm reduction strategies have targeted increasing the availability and use of condoms (both male and female); decreasing substance use before and during sexual behavior; delaying the onset of initiation of first sexual encounter; and various skills training in the areas of sexual communication, condom negotiation, and tailoring interventions to be culturally appropriate. Adolescent harm reduction programs have been implemented in environmental programs (e.g., social marketing programs); family-level interventions (e.g., targeting the communication between child and parent); community-level approaches (e.g., clinic-based screening programs); and individual-level approaches (e.g., motivational and skills-training prevention programs) (DiClemente, Salazar, & Crosby, 2007).

FUTURE DIRECTIONS IN SEXUAL RISK REDUCTION

As a result of the inadequacy of HIV prevention efforts and inequities in funding for prevention, approximately 2.5 million new infections occurred worldwide in 2007 (UNAIDS, 2007). There are many complex structural constraints that act as barriers against consistent sexual risk reduction. Future prevention efforts must address the contextual and societal factors that fuel the HIV/AIDS epidemic. This chapter has highlighted the many ways that harm reduction techniques can be utilized as an effective means to address the complexities inherent in sexual risk and reduce the risk of

HIV transmission. Future efforts must be comprehensive and avoid making assumptions about individual decision-making power and the availability of healthy choices. Future programs must include strategies to address stigma and discrimination with existing educational, awareness, skills-building, and prevention access strategies. Successful interventions will require utilizing ecological and gender and power theories that focus on both individual and social-environmental factors as targets for risk reduction. In addition, future harm reduction efforts will require a focus on implementing interventions and policies that address the marginalization of populations as well as the vulnerabilities that place people at risk, particularly people of color, the young, and women.

Reconceptualizing Condom Use

Currently, condoms are the primary strategy for sexual risk reduction worldwide, yet only 9% of risky sex acts worldwide involve condoms, and the global supply of condoms is millions short of what is needed (UNICEF, 2007). Model-based estimates of condom use have suggested that if condoms are utilized for half of all sexual contacts, the probability of transmission is reduced by about half of what might be achieved through consistent use (Pinkerton & Abramson, 1996). Future condom promotion strategies may be more effective if condom use is conceptualized within a harm reduction paradigm that stresses increased use of condoms instead of a strict focus on consistent use. This may encourage individuals who are unable or unwilling to use condoms consistently to reduce risk by using condoms when possible.

Addressing Stigma to Increase Testing

Increasing HIV testing is critical in the reduction of sexual risk. Early detection of HIV is particularly crucial because of increased infectivity during the first few months of infection. Furthermore, knowledge of HIV serostatus may increase sexual risk reduction practices. Stigmatizing attitudes toward people living with HIV discourages at-risk individuals from learning their HIV status. Many high-risk individuals have never been tested and avoid testing, due in part to fears of social stigma and discrimination. Membership in a vulnerable or marginalized group increases the amount of stigma associated with HIV and further deters at-risk individuals from learning their HIV status. HIV stigma also acts as a major deterrent for HIV-positive individuals from disclosing their status to others and from accessing HIV-related services (Carr & Gramling, 2004; Kippax, 2006). Future sexual risk reduction efforts must work to reduce existing stigma of HIV/AIDS and discrimination of people living with HIV/AIDS.

Sex and Drugs Not Sex or Drugs

The use of substances and sexual intimacy are strongly connected. Both casual and chronic substance users are more likely to engage in unprotected sex when they are under the influence of drugs and alcohol. In addition, substance abusers may be less likely to access health care or take medications as prescribed (Sharpe, Lee, Nakashima, Elam-Evans, & Fleming, 2004). This has negative implications for HIV testing, diagnosis and treatment of STIs, and adherence to ART. Future risk reduction efforts should strive to include strategies that effectively address both substance use and sexual risk taking. Interventions targeting individuals currently receiving substance abuse treatment have been very successful at changing sexual risk behavior, including increasing condom use (Baker, Kochan, Dixon, Heather, & Wodak, 1994; Caslyn, Meinecke, Saxon, & Stanton, 1992) and decreasing number of sexual partners (Malow, West, Corrigan, Pena, & Cunningham, 1994). HIV risk reduction programs may be more effective if housed in facilities where substance-abusing individuals already receive services or in existing community health or service locations (Cederbaum, Coleman, Goller, & Jemmott, 2006).

Reaching Out: Social Strategies

There is much need for increased HIV/AIDS awareness and knowledge. HIV awareness mass media campaigns are a cost-effective means of increasing knowledge and awareness around the world. Media campaigns are able to reach those who might be difficult to reach through conventional outreach. A 2006 meta-analysis of studies of HIV media campaigns in developing countries found mass media efforts associated with increased HIV knowledge increased condom use and improved interpersonal communication about HIV among sex partners (Bertrand & Anhang, 2006). Such campaigns may also address stigma and support gender equity and women's empowerment initiatives.

CONCLUSION

This chapter has provided an overview of harm reduction and efforts that have been utilized to address sexual risk behaviors. The authors have highlighted specific points of interest and concern for several high-risk and marginalized populations. This chapter is not intended to be a review of the literature. Our goal is to provide a comprehensive picture of the current state of sexual risk harm reduction in populations that are most in need of innovative and effective interventions to reduce the spread of HIV and AIDS. It is our hope that the information provided in this chapter might

serve as a catalyst for the implementation of evidence-based practices and provide information regarding the mechanisms that should be given attention when developing prevention and intervention efforts going forward.

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CHAPTER 8



Redefining the Treatment of Dual Disorders

PATT DENNING

Despite the enormous literature on dual or co-occurring disorders, there is still no theory of etiology or principles of treatment that have captured the complexity of people who suffer from them. The only consistent theme seems to be an agreement that dually diagnosed people must be fully and permanently abstinent in order to be accurately diagnosed and adequately treated. Most authors don't count any intervention as "treatment" until abstinence from psychoactive substances has been achieved (see, e.g., Drake et al., 2003; Minkoff & Drake, 1991). This type of thinking parallels the general attitude of our society about substance use: that we should have a drug-free America. We should all be pursuing this ideal in whatever professional or citizen role we adopt. Just as in society, where the war on drugs has caused incredible harm by incarcerating thousands of casual drug users while failing to curtail substance abuse, in treatment settings, the abstinence effort has limited our creativity and left thousands of people to suffer without professional aid. We allow no distinction between casual use and dependence. We have no formal treatments for mild problems, thus missing the vast majority of people who might benefit from treatment. We refuse to understand the important role that substances often play in the lives of people with emotional disorders. In summary, we don't work well in the

gray areas of human experience. American culture is decidedly dualist in nature. We prefer “yes or no,” “right or wrong,” “win or lose,” “clean or dirty” to the less quantifiable realities of human behavior. We want answers that fit all scenarios, not the answer “it depends.” In treatment settings, as in American society, we begin the discussion with the assumption that abstinence is the right way, and every other way is wrong. In society at large, we decide that drug users, and especially those who sell drugs, are bad, evil. We then incarcerate them rather than treat those with actual drug problems. While drug courts offer some respite from automatic incarceration, they operate with the constant threat that if a person does not comply with treatment recommendations, they will be sent to jail. In California, Proposition 36, the “treatment not jail” ballot initiative requires that a person plead guilty to the drug charge *before* being offered treatment. Only if the person successfully completes the treatment is the conviction expunged. So far, it appears that putting people in jail for substance misuse isn’t a cure. This failure to respect individual differences and individual rights is the hallmark of our society and of drug treatment to date. Harm reduction approaches never lose sight of the political and cultural realities in our approach to treatment.

More than 50% of people who have serious mental health problems also suffer from substance misuse (Drake et al., 2003). This rises to 70% if one includes all psychiatric disorders. Despite this prevalence, much in the dual diagnosis area actually exists in the context of an evolving field of substance abuse treatment. While community mental health systems first noticed and attempted to create services for these clients, what has evolved is, in essence, psychiatric considerations generally being layered on top of traditional understandings of substance abuse, with the American disease model and 12-step methods the primary orientations. This has unreasonably influenced the development of treatment models for co-occurring disorders, with substance use retaining the most intensive focus. The result of such design is disappointing outcomes (Drake, Mercer-McFadden, & Mueser, 1998). These outcomes mean continued suffering for the client and increasing expenses for society.

There are several noteworthy clinicians who have detailed treatment strategies for people with co-occurring disorders. Sciacca (1991) first understood the importance of lowering levels of confrontation when she began developing an integrated model in 1984. Sciacca has more recently incorporated motivational interviewing as a core element in her model. However, she continues to phase her interventions according to what she refers to as a “denial to abstinence” assumption. Minkoff and Drake (1991), along with others, have created both a treatment model as well as a model for the reorganization of service delivery systems. Minkoff uses the National Consensus “quadrant” model. Central to this is the grid of “quadrants” that assess the relative weight of substance abuse and psychiatric issues for

each person. While it is a sophisticated paradigm with staged interventions, it still relies on the language of disease and recovery, with “treatment” only beginning after abstinence has been achieved. This model is discussed further in the section on models of dual-diagnosis treatment.

What is missing? Why are current approaches still not reaching many with dual disorders, and why are outcomes still disappointing? There are a few clues to this question. First, it may be that the use of a disease and recovery model, taken from substance abuse traditions, actually limits the creativity of clinicians and ties them to the old paradigm of abstinence first. Second, we minimize the complex interactions that exist between a person’s feelings, behaviors, thoughts, symptoms, and the drugs he or she might use. And last, our categorical approach to diagnosis, where each “disorder” has a separate DSM code, ensures that we will be unable to think differently about this subject. A new paradigm has been needed for a while, one that can capture the complexity of these clients and offer compassionate, pragmatic, and effective care.

Harm reduction psychotherapy (HRP) is a new paradigm. It has emerged over the past 15 years out of the intersection of psychotherapy, public health, and advocacy movements. HRP starts from complexity rather than layers it in. A harm reduction approach to dual-diagnosis treatment recognizes that so-called dual disorders are multidetermined and inseparable, so that the very word *dual* is misleading. People don’t have *both* a mental health diagnosis and a substance abuse disorder. They have a single problem; they are immersed in a biopsychosocial process in which the relative weight of each factor is different for each person. The treatment, then, depends on the particular mix of elements that each client presents. HRP includes different assessment and treatment strategies than standard addiction treatments. It flows from the belief that clients have the right to address their problems without the imposition of predetermined goals such as abstinence. HRP starts from an understanding that we will seldom have the luxury of a clear psychiatric diagnosis. It is a model that embraces ambiguity and relativity. Our best information comes from our clients. We begin where the client is, take their descriptions of their problems at face value, and use their wisdom to guide the treatment.

CONTRIBUTIONS OF THE DUAL-DIAGNOSIS FIELD THUS FAR

Models for Understanding Dual Diagnosis

The state of the art of dual-diagnosis treatment is perhaps best spotlighted by our continuing struggle to settle on a term for those people who present with a constellation of substance misuse and emotional/psychiatric syndromes. In addition to the points made above, the terms dual diagnosis, dual disorders, comorbid disorders, co-occurring disorders, and the values-

laden “double trouble” all indicate our confusion, our hostility, and our general unease with these clients.

According to all published studies, the rate of co-occurring disorders in treatment settings ranges from 50 to 80%. How do we account for and understand such a preponderance of complex clients? Those clinicians and researchers who struggle to define and characterize the nature of dual disorders provide what Mueser, Drake, Turner, and McGovern (2006) call “four sets of overarching meta-models: secondary psychopathology models, secondary substance abuse models, common factor models, and bidirectional models” (p. 117). Each of these models attempts to explain not only the high comorbidity rates, but attempts to point to needed changes in both our treatment modalities and our treatment systems.

Secondary psychopathology models posit that substance use disorders cause some mental disorders in vulnerable populations: LSD leading to schizophrenia or alcohol dependence leading to depressive disorders, for example. The opposing theory, secondary substance use models, points to the role of self-medication, supersensitivity, dysphoria, and other psychosocial phenomena in the development and maintenance of substance use disorders. No matter what the specific nature of these phenomena, it is well known through human history that we tend to use psychoactive substances to quiet all kinds of emotional distress. This model would be the corollary to Khantzian’s (1985) self-medication hypothesis. Common factor models include the much-loved genetic predisposition theories, or the “brain disease” theories that characterize American addiction medicine since the 1970s. Finally, the bidirectional model offers an intriguing and complex way of understanding the mutual initiation, maintenance, and increasing sensitivity to exacerbation of these disorders over the person’s lifetime.

The best example of a bidirectional model is the co-occurrence of post-traumatic stress disorder (PTSD) and substance abuse. A literature review by Jacobsen, Southwick, and Kosten (2003) concludes that there are two pathways that account for the high comorbidity of substance abuse and PTSD (up to 70% in clinical populations). In one pathway, substance use precedes the development of PTSD and contributes to its development because of the often traumatic experiences and lifestyle that accompany addiction. In this scenario, the chronic stress suffered by those with chaotic lifestyles may sensitize the brain to be more susceptible to developing PTSD than would otherwise occur in response to traumatic events. This sensitization could occur because of the chronic activation of the “fight-flight” nor-adrenaline system. The second pathway is a self-medication hypothesis in which the trauma occurs first and leads to a search for a soothing, healing, or energizing experience that can often be found with substances (Khantzian, 1985). Withdrawal experiences, then, mimic the symptoms of PTSD

and lead the person back to the substance, creating a feedback system that resists intervention.

Other than the above research on PTSD, none of the four models has gained significant research support with the general population of people with dual disorders. This is to be expected if one believes, as does HRP, that these disorders have more heterogeneity than similarities. It is also to be expected when one adds medical disorders to the mix of comorbidity. Diabetes, heart disease, and chronic pain add their own chords to this complex symphony of life for those suffering with emotional disorders and substance misuse.

Models of Dual-Diagnosis Treatment

The literature shows that, in general, people with comorbid disorders tend to seek treatment more often than do those with stand-alone substance misuse or psychiatric disorders. We also know that dual disorders tend to have a longer, more serious course resulting in significant biopsychosocial consequences to the individual, their family, and society. Clients with co-occurring disorders also have worse treatment outcomes (see, e.g., Haywood et al., 1995).

As mentioned above, several noteworthy clinicians have detailed treatment strategies for people with co-occurring disorders. Minkoff and Drake (1991) have utilized a national consensus quadrant model for assessing patients and planning treatment. This matrix categorizes patients based on the severity of each of their two disorders—psychiatric disorders and substance abuse disorders—in four combinations.

Both high severity	Personal disorder low severity Substance abuse disorder high severity
Personality disorder high severity Substance abuse disorder low severity	Both low severity

The quadrant model allows for more complexity in diagnosis because it forces the clinician to be more precise in diagnosing the relative severity of the substance use and the psychiatric disorder in each individual. Systems of care are then built around these quadrants. For example, individuals in quadrant I are seen in integrated outpatient and primary care settings, indi-

viduals in quadrant II are followed within the mental health service system, individuals in quadrant III are served primarily in the substance system, and so forth. Each system will be dual-disordered competent in terms of assessment, but usually have priority populations.

The treatment practices in this model range from case management to medications to 12-step involvement. Individual psychotherapy is meant to be supportive and skills based rather than insight building and character restructuring. Motivational interviewing and the stages of change are incorporated, though, and a recovery model rather than a symptom-based model is used. The strength of a recovery model is to empower the client. How this works in practice, however, seems less sophisticated and less likely to lead to core changes in personality and in life development. In the hands of clinicians with limited expert training, the treatment looks most like Minnesota model substance abuse treatment with recovery-oriented mental health and medication-driven psychiatric services. Of concern in this and other models of care that incorporate Miller and Rollnick's work (1991, 2002) is that motivational interviewing was never meant as a way to move a client toward a predetermined agenda. Indeed, in the second edition of their work, Miller cautions clinicians to refrain from using motivational interviewing to guide or manipulate a client toward a defined goal.

A dual-diagnosis treatment model developed by Sciacca (1991) emphasizes the importance of lowering levels of confrontation when working with emotionally fragile clients. Motivational interviewing and the stages-of-change model are both core elements in her work. However, she continues to work within the "denial to abstinence" assumption even though much of her design is more sophisticated than many. She has continually updated her treatment methods and yet still manages to hold firm to the assumptions of a recovery-oriented model.

Limitations of the Dual-Diagnosis Field

The controversy over sequential or parallel treatment has been mostly won by the research that shows that only simultaneous or integrated treatment methods yield positive outcomes. Both Minkoff and Drake's and Sciacca's models are integrated and are described in better detail than most. Even in those models that incorporate motivational interviewing and cognitive-behavioral components such as skills building and relapse prevention, client retention may be limited by their emphasis on achieving and maintaining abstinence from illicit drugs and adherence to psychiatric medications. Most programs in the United States, even those that claim expertise in dual disorders, often use few of the many creative integrated treatment strategies available, tending to add psychiatric medications and social-skills training to the basic 12-step-driven treatment philosophy.

The dual diagnosis literature has not yet integrated motivational interviewing into a coherent theory of treatment. The term *pretreatment* has been coined to allow the use of motivational approaches and stages-of-change applications with clients still actively using drugs and alcohol. The concept of staging treatment interventions according to Prochaska's (Prochaska, DiClemente, & Norcross, 1992) model seems to arise partly from the knowledge that many clients will enter treatment still using and come with different goals. Staging is also used to segregate those clients who do recycle through treatment many times or who most likely will not become or remain abstinent. The rationale for this segregation is to allow those who are abstinent to be free of triggers. Such separation, however, feeds the fear of "contagion" that is evident in most substance abuse treatments, which caution clients to avoid "people, places, and things" that could tempt them to return to use. Even with the use of newer, evidence-based components, most treatment models cannot break free from the traditional assumptions of substance abuse treatment: the treatment always pursues abstinence as a primary agenda, as if that is the key to all other improvement.

HRP: AN INTEGRATIVE PARADIGM

HRP is a relative newcomer to the substance abuse treatment field. Only since 1991 have clinicians begun to describe and develop this unique way of viewing people with complex, interacting difficulties. Since then, many psychotherapists and treatment professionals, particularly those with an interest in dual diagnosis, have joined in the development of HRP with writings, training, seminars, and professional conferences dedicated to this new paradigm.

History and Context of HRP

HRP was developed specifically to take into account the lack of clarity and direction in the field of dual disorders. The principles and practices of HRP allow for both the flexibility and the creativity necessary to understand and treat people with complex problems.

HRP has a relatively short history in the field of substance use disorders. It has been developed by several clinicians and researchers over the past 16 years. Edith Springer (1991) was the first to introduce harm reduction concepts and practices to the United States after she visited and interned at revolutionary harm reduction clinic in England. Her treatment ideas were first applied to counseling with people with HIV. Alan Marlatt (1998; Marlatt & Tapert, 1993) brought harm reduction from the Netherlands after spending time studying their system of care for addictive behav-

iors. Much of what was written prior to 2000 was specifically related to public health principles or to care of injection drug users to stop the spread of HIV and other blood-borne diseases. Andrew Tatarsky (1998) may have been the first clinician to coin the term *harm reduction psychotherapy*. In his seminal paper and later in his book (2002), he describes some of the basic principles and techniques used by many practitioners, particularly those with a psychodynamic orientation. In her 2012 book, this author critiqued traditional treatment models and outlined the first comprehensive assessment and treatment model (Denning, 2012). This model of HRP utilizes cognitive-behavioral methods, neurobiological data, and motivational enhancements within the framework of a psychodynamic understanding of the nature of human suffering and change. This model has been translated into a book for the general public and for clients seeking an alternative to addiction treatment (Denning, Little, & Glickman, 2004).

In addition to the above people and the approaches mentioned previously, many others have been developing like-minded methods under terms such as life skills (Peele, 1991), responsible drinking (Rotgers, Kern, & Hoeltzel, 2002), rational recovery (Ellis & Velten, 1992), Addiction Alternatives (Kern, 1994), SMART recovery (Knaus, 1998), and comprehensive life skills (Horvath, 1998). These are primarily self-help methodologies, but practitioners such as Jeff Foote, who started the Center for Motivation and Change, have contributed greatly to the field. Indeed, much of HRP has borrowed heavily from the work of these authors.

The clinical principles of HRP have been derived from the principles of the harm reduction movement (both the public health and advocacy arms). This author, in collaboration with Jeannie Little (2001, 2006), both founders of the Harm Reduction Therapy Center in San Francisco, developed the following set of clinical principles to guide the work we do with clients with complex disorders.

Principles of HRP

1. Harm reduction is any action that attempts to reduce the harm of drug abuse and drug prohibition.
2. There can be no punitive sanctions for what a person puts in their body or refuses to put in their body.
3. People use drugs for reasons and not all drug use is abuse.
4. People can, and do, make rational decisions about important life issues while still using.
5. Denial is not actually denial. It is a product of shame and punitive sanctions and is usually quite conscious.
6. Ambivalence and resistance to change are “human.” It is our job to work *with* someone’s ambivalence and explore it, *not* confront it.

7. Addiction is not a disease, but a biopsychosocial phenomenon in which the relative weight of the biological, the psychological, and the sociocultural aspects are different for each person.
8. Substance use represents a relationship, an attachment that offers significant support to the person. Treatment must offer that support, as well as respect that maybe we can't do it as well or with such reliability.
9. Motivation toward change is the mutual job of the treatment provider and the client. People need relationship, self-esteem, and self-care to increase their motivation to reduce harm or more toward "recovery."
10. Success is any positive change—any step in the right direction.
11. Change is slow, incremental, with many setbacks. Relapse is the rule, not the exception. Plan for it. Help people stay alive and healthy and connected to treatment *during* their process of change and their relapses.

Objections to these principles, and to harm reduction in general, arise from several sources. First, recent brain disease concepts, which in treatment settings are combined with traditional 12-step ideas, characterize addictions as progressive, fatal diseases. This leads clinicians to fear that any "soft" approach to moderation or risk reduction is doomed to failure and is tantamount to assisted suicide. Second, many counselors in drug treatment are products of 12-step recovery themselves and believe strongly that no other approach could have worked for them, and since 12-step did, it's the right thing for everyone. Third, there is often a concern about the collateral damage to families and communities from substance abuse. Clinicians engage in legitimate arguments about whether at times it may be more important to prevent such harm than it is to focus solely on the individual.

To address the issue of collateral damage, practitioners have been studying bioethics and using this to conduct an analysis of HRP (Rotgers, 2007). Current models of bioethics have similar principles as those in HRP, most notably the principles of client autonomy and practitioner nonmaleficance (i.e., do no harm). Other models, however, emphasize the importance of considerations of client competency as well as the impact on family and community in making complex clinical decisions. As the new field of HRP struggles with such important issues, we will further refine and develop a sophisticated paradigm and effective treatments to replace what is outmoded.

An important work regarding the etiology and treatment of substance abuse (Miller & Carroll, 2006), while not specifically intended for dual disorders, nonetheless reflects many of the same beliefs espoused by harm

reduction. They describe 10 broad principles, including: drug use is a chosen behavior; drug problems emerge gradually and form a continuum of severity, with severity tending to be self-perpetuating; drug problems do not occur in isolation and there are factors that promote or protect against substance misuse; and finally, that motivation and relationship are important factors in treatment.

Components of the HRP Model

HRP was developed specifically to understand and treat complex, interacting drug, psychological, and medical disorders and environmental circumstances. HRP uses a biopsychosocial system to understand the intricate interactions of all of these factors in the initiation and maintenance of comorbid disorders. The evidence basis and clinical techniques of HRP have been detailed elsewhere and apply equally well to single or multiple diagnosis clients (Denning, 2012; Denning et al., 2004). What is often most difficult for clinicians is teasing apart the relative importance of mental disorder, emotions, drug influences, and environmental stressors in each individual client. While there are few hard-and-fast rules, experience and thousands of conversations with clients have provided some guidelines that help us to begin treatment whether or not we have a firm diagnosis to guide us.

HRP is based on the knowledge that substances can mimic, increase or decrease, or alter one's emotions and the expression of mental disorders. And the effects of substances can be modified by the presence of strong affect, expectations, or psychiatric conditions. In addition, noting the research in the area of client retention, the therapeutic relationship takes a central part in HRP. Without this relationship, the treatment can neither begin nor continue with positive results. With these considerations in mind, the practice of HRP follows these principles:

- *Collaboration*: Clinician and client work together to prioritize a client's needs and create a treatment plan. HRP starts *where the client is at*.
- *Continuum*: Drug and alcohol use occurs across a continuum, just as motivation to change behavior spans the continuum from a desire not to get AIDS to a desire to be "clean and sober."
- *Complexity*: Understanding and addressing the different biological, psychological, and social issues that factor into each person's unique *relationship* to using drugs and alcohol.
- *Change*: Research shows that behavior change is typically gradual, especially for people who are dually diagnosed. HRP is designed to understand a client's change *process* and thus increase their motivation to change behaviors.

- *Compassion:* Confrontational approaches do not help the psychologically vulnerable.
- *Commitment:* Treating people who may still be using is not “enabling” continued drug use, but helping desperately needy people to engage with and stay in treatment. Dead addicts never recover.

One of the challenges in developing a diagnostic and treatment model that takes into account the complex interactions of many dimensions of human experience is how to organize all of the clinical data without ascribing a *a priori* value to any one cluster. In addition, experience tells us that changes in one factor or dimension affects the whole system, for better or worse. The best fit for this need to organize and understand data is a model called drug, set, and setting (Zinberg, 1984). Zinberg’s (1984) research showed that the drug experience, as well as the harms often associated with drug use, was not usually caused by the drug itself, but by a combination of the drug, the set (the person using), and the setting. This model also is a good representation of the combined effects of biology (drug), psychology (set), and sociocultural factors (setting). By filling in information from interviews, assessment tools, lab results, and so on, it is possible to get a visual representation of the internal complexity of each individual clients.

- *Drug.* A client may be smoking crack and drinking alcohol. In addition, she may be taking retroviral therapy for HIV, and an antipsychotic for paranoia and agitation (which may or may not represent a functional or a toxic psychosis).
- *Set.* This client may carry a diagnosis of borderline personality disorder, and has a clear history of physical abuse as a child and as an adult. She also suffers from depression. She is also very religious and berates herself for not living a more Christian life. She is shy and overly compliant except when it comes to abstaining from drugs. She is also very helpful with some of the other clients in the center.
- *Setting.* She regularly comes to the treatment center and interacts with staff and other clients. She lives alone in a hotel and uses her drugs by herself. She sometimes attends church services but feels the judgments of others there.

There are many opportunities for engagement and treatment planning with this woman that do not necessarily involve her drug use, which is firmly entrenched at this moment. She may benefit from increasing her church attendance and working in counseling on her own judgments about her lifestyle so that she can do so. She can be encouraged to take on a more formal role as peer support counselor or advocate to give her a sense of duty and responsibility that will increase her self-esteem and self-efficacy. These are both setting interventions, with some set benefits.

Understanding the role of the substances in our clients' lives is essential to helping them make changes. Often with dually diagnosed people, there is a complex set of interactions that can be viewed through a self-medicating/pharmacological lens. In the preceding case, it may be that she is drinking alcohol to soothe herself from the effects of traumatic experiences that overly activate the norepinephrine system. And she may be using the stimulant cocaine to enliven her rather depressed self. Unfortunately, the crack is also activating her norepinephrine system, resulting in both agitation and dopamine-related paranoia. It would most likely be beneficial if she were to abstain from both alcohol and crack, given this brain scenario. At this point, such a suggestion would likely result in her not returning. It is up to us to work with her to come up with reasons why she may have to want to make changes.

It is important to note that, for the most part, HRP as practiced by this author does not separate treatment into an assessment phase and then treatment planning. Because of the complex and ever-changing interactions, and because of the centrality of the therapeutic relationship, formal objective assessment measures are not used at the beginning of treatment (except for baseline data that is used for outcomes research and not part of the clinical record). From the beginning, clinical techniques and treatment strategies are layered on a foundation of information gathered in a collaborative conversation with the client. This conversation, and the relationship that develops, is guided by motivational interviewing (Miller & Rollnick, 1991). Client and therapist determine the wish and need for changes in all areas of a person's life and use the stages-of-change model (Prochaska et al., 1992) to recognize areas that will have a better chance of successful short- or long-term changes. Barriers to change as well as incentives for change are examined. For example, a client might be in the contemplation stage with regards to stopping using alcohol because it is soothing, but in the preparation stage for taking regular psychiatric medications because he or she thinks that doing so would be beneficial. Allowing a client to set the pace of change as well as the nature of that change then sets the clinician free to do what we should do best: develop specific therapeutic strategies to craft the changes. Focusing on substance use management regarding alcohol consumption circumvents resistance to change while at the same time suggests safer ways to drink. Social skills training to improve the client's communication skills might enhance the few relationships she now has. Education about taking care of one's liver could motivate the client to consider changes in alcohol consumption. In addition, changing her housing to a group situation might improve her mood by decreasing social isolation. All of these interventions, whether directly focused on drug use or not, will have beneficial effects that can build on one another.

The use of specific verbal and somatic therapies for the treatment of trauma is a newer addition and is based on the writings of many authors as well as on the ongoing work at the Harm Reduction Therapy Center (see, e.g., *Seeking Safety* [Najavits, 2002]). *Seeking Safety* consists of 25 topics that can be conducted in any order, in group or individual formats, including: Taking back your power, When substances control you, Honesty, Asking for help, Setting boundaries in relationships, Healthy relationships, Creating meaning, Integrating the split self, Taking good care of yourself, Commitment, Respecting your time, Coping with triggers, Self-nurturing, Red and green flags, and Detaching from emotional pain (grounding).

Central to this work is an understanding of the neurobiology of arousal systems that are deranged by traumatic experiences. In addition, chronic trauma at the hands of caregivers results also in serious attachment difficulties that drive both reenactments and substance misuse to calm and soothe. Therapeutic techniques must work to reduce arousal, modulate affect, and help the client feel safe. This is more important than the telling of the traumatic story. Clients are taught how the brain works and the interacting effects of naturally occurring brain chemicals, substances, and emotions. Armed with this information, clients can construct their own understanding of how drugs might be helping or harming them.

One of the most vexing problems that clinicians face is determining the relative impact of substances on symptoms and vice versa. It is often impossible to know whether alcohol is improving a seriously depressed person's mood or if it is adding a pathological dimension to a less severe depression. We know that stimulant drugs can improve some of the symptoms of schizophrenia and we also know that it can make other symptoms worse. HRP offers both insight and assistance in this area. Because the treatment is not predicated on a firm answer to the chicken-or-egg questions that we have, treatment techniques can be used and both client and clinician can follow the changes to build a story of what might be true for each client. For some, reduction or elimination of alcohol will greatly improve their mood, thus "proving" an etiological fact and suggesting a recommended course of action that can be discussed. Other times we will continue to be blind to the interactions and have to rely on the therapeutic relationship and trial-and-error interventions to achieve improvement.

CONCLUSION

This chapter has offered a way of looking at the complex interactions between the substances people use, emotional reactions or psychiatric symptoms they may have, strengths that may go unnoticed, and the unique

context of their lives. While many others have contributed to the field of dual disorders, HRP represents both a paradigm shift and a series of clinical principles and practices that is unique in this country. Further development should include, among other things, treatment outcome research and qualitative studies to tease apart what might be most useful in this method and suggest improvements over time.

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PART III



HARM REDUCTION AND SPECIAL POPULATIONS

CHAPTER 9



The Need for Culturally Competent Harm Reduction and Relapse Prevention Interventions for African Americans

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Remarkably little attention has been devoted to developing harm reduction and relapse prevention intervention components tailored for African Americans. This deficiency persists despite that fact that African Americans constitute a numerically, politically, and culturally significant segment of American life. African Americans are the largest *racial* minority group in the United States, numbering 37 million, approximately 12% of the total population. While African Americans represent a diverse population, much of the research and clinical dialogue regarding African Americans assumes homogeneity. In addition, there is often a focus on African Americans in poverty, and social comparisons are frequently made between poor African Americans and middle-class whites. Over the past decade, there has been growing support for the need to develop culturally tailored intervention

components for African Americans across many health-related domains and across harm reduction- and relapse prevention-related domains specifically (U.S. Department of Health and Human Services, 2001). The quest for culturally tailored intervention components raises important questions. How might cultural tailoring be accomplished with such a diverse population? How might scholars and health providers identify specific components of cultural competency applicable to such a heterogeneous group without drawing on oversimplified caricatures? What is distinct about African American culture?

The authors address these questions in the current chapter by adopting an approach intended to balance three aims: to identify important historical and current demographic contexts shared by African Americans, to articulate collective characteristics that foster resiliency in African American communities, and to illustrate how specific harm reduction and relapse prevention constructs might interface with these historical/demographic and resiliency factors. The authors explore what it means to be African American in the United States and discuss African American-oriented cultural competency from harm reduction and relapse prevention perspectives. Throughout this discussion, the terms *African American* and *black* are used interchangeably. It is important to consider the cultural observations made in this chapter as not characterizing the entire African American community. A cross-cutting emphasis throughout this chapter is the use of dynamic sizing (Sue, 1998, 2006) to generalize and be inclusive or to individualize and be exclusive.

THE AFRICAN AMERICAN EXPERIENCE IN AMERICA: HISTORICAL AND CURRENT CONTEXTS

African Americans bear the unique burden of the legacy of slavery and oppression, a history of racism and violence in America, and the experience of both overt and covert discrimination. African Americans have strived and thrived through centuries of slavery and a century of “Jim Crow” laws, followed by decades of de facto segregation, marginalization, limited opportunities, and continued intentional and unintentional racism. Today the large majority of African Americans continue to reside in communities wherein the majority of residents are black, effectively segregated from the larger population. The African American population is distributed unequally across the United States. While more than half of African Americans (56%) live in the South (many of whom reside in rural areas), large concentrations of African Americans reside in metropolitan areas. New York City has the largest population of African Americans (2.3 million, or roughly 27% of population), followed by Chicago and Philadelphia (Office of Minority Health, 2009).

African Americans across all age groups experience higher morbidity and mortality rates than most other racial and ethnic minority groups—higher infant mortality rates, higher death rates in certain age cohorts, shorter life expectancy, and disproportionate black male death rates due to HIV/AIDS and homicide (Office of Minority Health, 2009). While the overall health status for Americans has improved since the mid-20th century, health disparities between African Americans and whites have increased. The largest disparities are in hypertension, violent injuries and fatalities, diabetes mellitus, and infectious diseases (sexually transmitted infections [STIs], including HIV) (Murphy, 2000).

After a period of growth and success in the 1960s, African American families have experienced severe social and economic setbacks. When the U.S. economy is in decline, African Americans often experience disproportionately negative economic outcomes. For example, in the year following September 11, 2001, more than 10% of African Americans lost their jobs, and unemployment rose from 5.4% for blacks in 2000 to 10.3% in 2002 (U.S. Bureau of Labor Statistics, 2003). Although unemployment has begun to fall, unemployment among African Americans (9.2%) remains consistently higher than the national average (4.6%) (U.S. Department of Labor, 2007). Rising unemployment rates in the black community has had the greatest direct impact on the employability of black men. Even college-educated black males have unemployment rates that are two to four times greater than their white peers. Currently, approximately 25% of African Americans live in poverty, and black children comprise more than 30% of children in poverty (DeNavas-Walt, Proctor, & Smith, 2007). Increased and ongoing economic instability has led to severe disruptions of the black family.

Since the first slaves were taken from Africa and brought to the United States, the African American family has been undermined. Marriages during slavery were initiated and dissolved by slave owners for profit or convenience and were viewed as a means to breed and bear children who would be future slaves (Black, 1996). Following emancipation, ex-slaves often conducted extensive searches to find lost spouses and family members. During this time, marriages in the African American community reached record numbers (Black, 1996). From emancipation up until approximately 1980 the majority of African American families had been married-couple families. Since then, however, there has been an increasing decline in marriage rates among African Americans (Billingsley, 1992). In addition to the decline or delay in marriage there has also been acceleration in the divorce rate (Glick, 1997). The second half of the century gave rise to the single-mother phenomenon in the African American community. Female-headed households grew to one-fourth of African American families by 1965. Between 1965 and 1990 the number of female-headed families doubled.

Unemployment is not the only social factor undermining the African American family. Institutional racism has led to discriminatory and punitive social policies that negatively affect the African American community. Perhaps the most egregious of which has been the “war on drugs” and extended mandatory sentences (Fellner, 2000). Since their inception national incarceration rates have tripled over the past two decades (Justice Policy Institute, 2001). Across the country black men are disproportionately arrested and incarcerated, beginning as early as age 16. The latest U.S. Department of Justice Statistics (2009) report 1 in 21 black males incarcerated at midyear 2008, compared to 1 in 138 white males. More than 11% of black males ages 25–34 are incarcerated, and black men, most of whom are poor, are incarcerated at 6.6 times the rate of white men. Black women were incarcerated, many for drug-related offenses, at nearly four times the rate of white women and more than twice the rate of Hispanic women.

As black males are routinely placed in and out of the criminal justice system they are taken away from their families and communities, depriving the family of male support. High incarceration rates among African Americans negatively affect dating, marriage, and family. One night spent in jail or prison for a black man reduces his odds of ever marrying by 76% (Patterson, 1998). In addition, formerly incarcerated men experience greater difficulty establishing secure relationships, maintaining employment, and behaving in ways that nurture intimate relationships (Lane et al., 2004).

High death and incarceration rates among black men have led to a shortage of men in the black community. Currently, approximately 70% of black women ages 15–44 are single. In the age range of 24–64 there are about 1.5 million more females than males or 85 black males for every 100 females. Due to this sex ratio imbalance, some women become motivated to expand and intensify strategies aimed at attracting or keeping a male partner. These changes—when borne of a sense of desperation—can foster compromises and accommodations in their relationship standards, which in turn can lead to feelings of powerlessness and devaluation and may place women at greater risk for substance abuse problems and STI/HIV-related sexual risk taking (Guttenberg & Secord, 1983; Wilson, 2000). This sex ratio imbalance is of particular concern due to the fact that in 98% of black female marriages, the groom will be a black male (Johnson & Staples, 2005). Although the rates of interracial marriages have continually increased, black women are less likely than females of other racial/ethnic groups to date outside of their racial group. Many black women will not be presented with the prospect of marriage and others may choose to remain in destructive relationships due to a lack of options.

RESILIENCY IN THE AFRICAN AMERICAN COMMUNITY

The historical legacy shared by all African Americans and the demographic contexts shared currently by many African Americans are typically understood to foster problematic health and life outcomes. However, against this backdrop of racism and its detrimental effects African Americans have survived. The community has done so through resilience, the long-standing utilization of deep-rooted survival mechanisms, a focus on community, and advocacy. Hill (1971, 1999) identified five strengths that have been culturally transmitted through African ancestry to black families. These strengths foster resilience in both families and individual community members: a strong kinship bond, a strong work orientation, a strong achievement orientation, flexible family roles, and a strong religious orientation (Hill, 1971, 1999).

Strong Kinship Bond

One of the most enduring aspects of African American culture, transmitted directly through African ancestry, is the reliance on extended family as a source of strength and support. For many African Americans, extended family members include blood relatives (e.g., aunts, uncles) as well as “fictive kin” who are unrelated by blood (e.g., members of the church family, “auntie”) (Boyd-Franklin, 2003). Historically, black families have valued the whole over the individual parts, continuing to allow family members who have become involved in substance use to have access to the family and incorporating infants born out of wedlock into the family fold. The importance has been placed on maintaining strong family relations. This extended network of family works to help each other with tangible (goods and services), emotional, and informational support. Support and strength provided by African Americans by extended family is well documented in the literature (Billingsley 1992; Hill, 1972, 1999). This environment of exchange and reciprocity is a vital black survival mechanism.

Strong Work Orientation

African Americans have historically held a strong work orientation. Indeed, many labored for centuries with no compensation and little if any personal gain or reward. Due in part to economic necessity African American families have comprised husbands and wives who are both income earners. Moreover, African American children have historically initiated employment at a young age to assist with the family finances. This strong work orientation has kept many African American families from falling into poverty and propelled some into the middle class. Indeed, the majority of

affluent African American families comprise two parents, both of whom are employed full time. The more family members working in a household the less likely the family is to be devastated by the realities of the disproportionately low median family incomes experienced by black families, poverty, and persistent unemployment as a result of fewer employment opportunities.

Achievement Orientation

African Americans have a proud history of achievement. Dating back to the earliest days of slavery, African Americans have been responsible for many inventions, from the first clock to means for transmitting telegraphic messages between moving trains (Baker, 1969). Even slaves, who knew that they would neither be compensated nor acknowledged for their inventions, contributed such items as the cotton gin and steam-boat propeller (James, 1989). Historically black colleges and universities (HBCUs) have excelled and been pioneers in education. Although they constitute only 3% of U.S. institutions of higher education, HBCUs enroll 14% of all African American students in higher education (U.S. Department of Education, 2008). HBCUs have provided undergraduate training for three-fourths of all blacks holding a doctorate degree, three-fourths of all black officers in the armed forces, and four-fifths of all black federal judges (U.S. Department of Education, 1991). Even with widespread disparities and disproportionate access to resources, African Americans have excelled in all areas of science and art. For several years, an African American woman, Oprah Winfrey, has been identified as the most successful woman in the United States.

Flexible Family Roles

The existence of flexibility in family roles is perhaps one of the most important cultural strengths of the African American family. In many African American families, members do not have defined roles and often take on different roles and perform functions as needed. Moreover, in African American families there is often a great deal of sharing of decisions and tasks. Frequently, African American families do not hold traditional views of feminine and masculine roles of individuals in the household. Much of the role flexibility is out of economic necessity and developed as a survival mechanism. When both parents are employed, as is often the case in African American two-parent families, each must attend to household needs as they arise. In addition, when both parents are out of the home, it is common for older siblings to act as “parents” of younger siblings. This flexibility helps stabilize the family through the division of labor and household tasks.

Strong Religious Orientation

Religious institutions and spiritual beliefs have been long-standing sources of strength for African Americans. For much of the history of the United States, the black church was the sole institution wherein black men and women could develop and assert leadership skills. Historically, the black church has been a leader in political resistance and activism; a source of social, emotional, and economic support; and a center for intellectual, educational, and artistic development of African Americans (Lincoln & Mamiya, 1990). As a direct result of its family support functions, the black church has been a major contributor to the upward mobility for many low-income African American families (Billingsley, 1992). When compared with other ethnic groups, African Americans show greater levels of religiosity and spirituality. In addition, both religiosity and church attendance have been positively associated with life satisfaction among African Americans (Taylor, Mattis, & Chatters, 1999). Regardless of socioeconomic status, region, and other sociodemographic factors, African Americans have been found almost always or often to seek spiritual comfort and support when confronted with problems, and a greater percentage than whites reported that religious or spiritual beliefs are very important in their daily lives (Taylor et al., 1999)

AFRICAN AMERICAN DIVERSITY FACTORS THAT POTENTIALLY MODERATE RESILIENCY

Although it is likely that you will find at least one and most likely a number of the above strengths in African American families and community members, it is important to reiterate the heterogeneity within the African American community. It would be remiss to assume that the African American experience can be defined by a specific definition of what it means to be African American. Many diverse demographic factors influence the experiences of African Americans. These include religion, skin color/tone, gender, education, and socioeconomic status, to name a few.

Religion

Although the large majority of African Americans hold Christian beliefs and engage in religious practices in black churches with a Christian belief system, there is a great deal of religious and spiritual diversity in the African American community. Throughout the country there are small Islamic sects of African Americans, particularly in urban areas. The practice of Islam has grown among African Americans as a result of decades of Nation of Islam prison-based ministries and the popularity of Malcolm X. In addi-

tion, a small but growing population of African Americans practice African religions.

For some, the practice of African religions has been an avenue through which to integrate Afrocentric principles in their lives (Abimola & Miller, 1997; Amen, 1990). There is much diversity among African Americans with regard to the degree of their involvement in Afrocentric practices. Afrocentrism has been a growing movement since the mid- to late 1960s. The movement provides African Americans with a framework to dispel the negative images and stereotypes placed on them by the dominant society and to reclaim, reaffirm, and restore cultural strengths. One example of the increased influence of the Afrocentric movement is the increasing popularity of Kwanzaa created by Maulana Karenga in 1966 (Karenga, 1997).

Although these are the more common representations of religious and spiritual beliefs among African Americans, it is important to note that this discussion is not exhaustive. In addition, some African Americans do not identify as spiritual or religious and consequently may experience isolation from the larger community. This isolation often places individual members at greater risk for certain behaviors, including substance abuse.

Income/Occupation

In times when the national unemployment rate experiences decline, the unemployment rate among African Americans, particularly African American men, has increased. In January 2008, the national unemployment rate was 4.9%. The unemployment rate for African Americans (9.2%) was more than two times the national rate, more than two times the rate among the white population (4.4%), and almost 1.5 times the rate among Latinos (6.3%) (U.S. Department of Labor, 2007). At work African Americans continue to fight discrimination as they confront more subtle types of bias such as the allocation of black professionals to jobs in community relations and other staff positions with poor promotion prospects (Collins, 1997). In addition to the relegation of African Americans to jobs with lower pay and limited future prospects, household income for African American families (\$29,445) has been consistently lower than the national average (\$45,367) (Executive Summary, 2001).

Skin Tone

Darker-skinned blacks have historically faced greater prejudice and discrimination from whites than their lighter-skinned counterparts (Reuter, 1969). During slavery, skin tone often dictated occupational placement, for instance with lighter-skinned individuals gaining more privileged household servant positions while dark-skinned individuals were relegated to harsher field laborer positions. Skin tone differences have also been associated with

discriminatory outcomes within African American communities, perhaps as an expression of internalized racism. Some contemporary researchers have found that the differences between dark- and light-skinned African Americans persist and are of the same magnitude as black-white differences (Celious & Oyserman, 2001; Hughes & Hertel, 1990; Keith & Herring, 1991). There is a large literature exploring skin-tone distinctions and associations with education, occupation, and income (Hughes & Hertel, 1990; Keith & Herring, 1991; Krieger, Sidney, & Coakley, 1998). Celius and Oyserman (2001) argue that the differences between poor and wealthy, male and female, and dark- and light-skinned African Americans warrant a view of the African American experience as one of multiple experiences rather than a single experiential state.

Education

Educational attainment greatly influences sociodemographic variation among African Americans. Educational attainment has traditionally paved the way to status improvement and status maintenance for many African Americans. Following emancipation, many newly freed African Americans viewed education as the primary means to protect their freedom and increase their social status. While educational attainment and academic achievement have always been of great importance in the African American community, access to quality education historically has been a struggle.

During slavery, many slave-holding states, in an effort to enforce ignorance and maintain subordination among slaves legislated prohibitions against black literacy (Franklin, 1992). Following the Civil War, schools were opened in ex-slave communities and the Freedmen's Education Movement, led by African American ex-slaves, began to advocate for social equality through the provision of universal education (Franklin, 1992).

The Supreme Court's "separate but equal" decision in *Plessy v. Ferguson* (1896) resulted in dramatic underfunding on both the state and local levels for black education. It was during this time that most HBCUs began to serve multiple roles as secondary, college preparatory, and college-level training institutions at the same time. In doing so, these institutions were able to provide a variety of educational needs for the African American community, often serving as the only quality school for large geographic areas where blacks were barred from white schools. Although HBCUs constitute only 3% of the more than 4,000 institutions of higher education in the United States, they enroll 14% of all African American students in higher education.

The struggle for education in the African American community has resulted in many gains in educational attainment for many African Americans. There are, however, disparities in the educational attainment among

African Americans. African Americans age 25 and older with a bachelor's degree or higher degree are more than twice as likely to be unemployed than their white counterparts (USDOE, 2006). Among the HBCUs, almost 18% report that 2/3 or more of all entering black students fail to earn their diplomas. Many of the students who attend HBCUs are from low income families and arrive with weak academic preparation and poor study habits. Additionally, the majority of HBCUs lack endowments and necessary resources to support a student population with complex educational needs and few resources (U.S. Department of Education, 2006).

Experience of Racism

It is important to understand experiences with racism and their impact on the individual, family, community, and society. African Americans experience many forms of racism and discrimination, including direct face-to-face racism as well as structural and societal racism (e.g., discrimination in employment, housing, health services, and social services) (Idson & Price, 1992; Landrine & Klonoff, 1996; Lott & Maluso, 1995). The threat of racism is chronic and pervasive for African Americans and for many is a daily experience (Feagin & Sikes, 1994; Williams, Neighbors, & Jackson, 2003). Racism affects African Americans at all socioeconomic levels and cannot be entirely avoided even if one works hard enough, achieves enough, makes good decisions, and so forth. Integrating the impact of race, racism, and marginalization into conceptualizing the African American experience is paramount.

When conceptualizing the African American experience in order to incorporate culturally competent interventions to reduce risk, it is critical that the provider initiate a dialogue about experiences and perceptions of racism; understand the individual's experience of being African American; and understand how this experience can inform a harm reduction or relapse prevention paradigm. The information above provides a framework from which to begin when assessing an individual's experience being African American. The following sections discuss possible approaches for incorporating African American cultural competency into a harm reduction framework.

CULTURALLY COMPETENT HARM REDUCTION AND RELAPSE PREVENTION FOR AFRICAN AMERICANS

Defining cultural competency is a difficult task. We have approached the construct of cultural competency by using the working definition provided by Barrett and George (2005). Cultural competency in both research and clinical work with African Americans involves:

1. Developing an awareness of personal, professional, and cultural biases that may adversely affect African American individuals, families, and community.
2. Developing an awareness of the definitions and dynamics of racism, discrimination, and cultural oppression; this includes understanding personal racial socialization processes that foster prejudice and understanding the meaning and impact of stereotypes.
3. Acquiring knowledge about the history (especially sociopolitical), culture, norms, and traditions of African Americans; this especially encompasses cultural views and beliefs about health, mental health, and treatment processes. This also includes assessing psychosocial environment with a focus on culturally relevant stressors and support systems.
4. Understanding the importance of ethnic, cultural, and racial identity processes as they affect human development; one's sense of well-being; and one's familial, social, and intergroup relationships. Understanding such identity processes is important regarding the lives of the clients as well as the lives of professional service providers.
5. Developing relevant interpersonal skills and effective methods for working with African Americans. This includes gaining an understanding of how race, culture, and language affect interactions with professionals, the expression of emotion, parenting styles, spirituality, and family organization. This also includes becoming knowledgeable about the cultural limitations of using standardized assessment instruments with African Americans.
6. Taking action in the service and advancement of equality and justice. Professionals working with marginalized and oppressed groups should contribute to addressing injustice and discrimination by advocating for structural change.

Black Men as Powerful, Not Prisoners

Perhaps the most critical harm reduction efforts for the African American community must be done on a larger structural level. The current criminalization of black men and subsequent undermining of the African American family must be addressed to reduce the harm inflicted by the absence of black men in the African American community. Through awareness and policy change advocacy, it is necessary to shift the long-standing stereotype of African American men from prisoner to powerful. The disproportionate arrests and incarceration of African American adolescents and young men must be addressed. Many African Americans living in urban minority neighborhoods are confronted with the pressures of inner-city poverty, the inability to find work, and increased surveillance and police vigilance

(Ragsdale, 2000). Black men are often seen as criminals by black and white people alike. This increases their likelihood of being victims of violence, including racial profiling, police brutality, hate crimes and other racial bias incidents. The death rate for young black males is higher than that of any other racial or ethnic group. Homicide rates among black males are eight times that of white males and three times that of Hispanic males (National Center for Health Statistics, 2011).

Acknowledging Extended Networks

As a direct result of parental losses due to incarceration, drug and alcohol abuse, and AIDS, the number of African American children in foster care has risen dramatically (Taylor, Tucker, Chatters, & Jayakody, 1997). Historically, their willingness and openness to caring for other people's children have placed African American families in positions of leadership in the foster care system. For centuries black families have been pioneers in informal adoptions, taking in children born out of wedlock and caring for them. Furthermore, adoption by relatives and neighbors is widely practiced in black families.

Unfortunately, adoption and child welfare agencies are unaware of or choose to ignore the strong legacy of "kinship care" and informal adoption in the African American community. When an African American child is orphaned, many agencies do not search for nonfamilial sources of support within the African American community. As such, African American children continue to be disproportionately represented in foster care. Although state policies declare that kin are eligible to receive the same services as non-kin foster parents (Janz, Geen, Bess, Andrews, & Russell, 2002), extended family members who take in children are offered fewer services, request fewer services, receive fewer of the services they request, and face barriers to accessing services (Chipungu & Everett, 1994; Cook & Ciarico, 1998; Everett, Chipunga, & Leashore, 2004). Moreover, in African American communities, where kinship is not always defined by blood relations, "kin" are often given little or no financial support as compared with nonfamilial foster parents; and many states still struggle to effectively implement "kinship care" policies (Hill, Smith, Kidd, & Williams, 2002).

This results in the loss of children for parents who are incarcerated or experiencing substance abuse problems. The loss of children and the difficulty encountered in navigating the child welfare system may present high-risk situations for many parents who are attempting to change their behavior. This loss is often perceived as a failure, fostering a sense of negative self-worth and internal or self-related attributions of drug use. A relapse prevention approach builds on the strength of kinship networks in the African American community. Parental involvement in identifying kin to care for the children during their recovery provides a sense of accom-

plishment and reduces the magnitude of potential relapse triggers among parents. Assessing extended family networks and identifying avenues by which children can remain in the “family,” thus giving parents the ability to maintain involvement in their childrens’ lives, creates a tighter link between parent and child and reduces the harm to African American children in the foster care system. In addition, programming that offers parenting skills and services to both birth parents and kin increases parenting self-efficacy and ensures a brighter future for children. A focus on increasing parents’ ability to cope with high-risk situations and the stress inherent in parenting increases one’s overall sense of self-efficacy, improves recovery, decreases the probability of relapse, and helps strengthen the African American family.

Acknowledging kinship networks may also broaden the support network available to clients in their efforts to reduce harm and avoid relapse. Exploring relationships and familial ties as they are defined by the individual may make these relationships and support networks more apparent. A thorough exploration of kinship networks will aid in the avoidance of excluding important sources of support.

Addressing Barriers to Treatment and Care

Historical and continual racial discrimination results in mistrust of the health care system among African Americans. The Tuskegee syphilis study is perhaps one of the more well-known manifestations of historical racial discrimination in health care; however, there are many other occurrences of racial discrimination in health care both prior to and since the Tuskegee syphilis study that contribute to mistrust among African Americans (Gamble, 1997). In modern-day health care there continue to be remnants of historical racism, which often manifests in misrepresentation and misinformation (Suite, LaBril, Primm, & Harrison-Ross, 2007). An example of this misrepresentation and misinformation is misdiagnosis or overdiagnosis of severe mental disorders (e.g., schizophrenia) and underdiagnosis of less severe mental disorders (e.g., mood disorders) among African Americans (Snowden & Cheung, 1990; Whaley, 2001a). In addition, there are recent reports of negative experiences with the health care system in African American communities (Fu et al., 2007).

Mistrust relates to how African Americans view healthcare professionals. African Americans who report higher levels of mistrust perceive white mental health professionals as less credible and less able to help them (Watkins, Terrell, Miller, & Terrell, 1989). Furthermore, higher levels of mistrust of whites are related to negative attitudes toward psychological help-seeking from clinics staffed primarily by white mental health professionals and expectations that the care they would receive at such clinics would be less helpful (Nickerson, Helms, & Terrell, 1994). In addition, it

has been found that fear/mistrust is one reason African Americans do not participate in some health care research (e.g., HIV vaccine trials) (Moutsia-kis & Chin, 2007).

In addition to mistrust, underutilization of mental health services is the result of some African Americans' associating psychotherapy with diminished pride and increased weakness. Participants in a focus group discussing African Americans' perceptions of psychotherapy and psychotherapists noted, "the historical expectation that life would be difficult and that African-Americans as a cultural group could and would cope with all adversity" (Thompson, Bazile, & Akbar, 2004, p. 22). This outlook has been proposed to inhibit help-seeking (Boyd-Franklin, 2003).

If African Americans do enter treatment, research suggests that they average fewer sessions and terminate from outpatient mental health services earlier than white Americans (Kazdin & Mazurick, 1994). In addition, evidence suggests this population has a decreased chance of having positive treatment outcomes (McKay, Gonzales, Quintana, Kim, & Abdul-Adil, 1999; Webster-Stratton & Hammond, 1990). Beyond ethnicity, it has been demonstrated that socioeconomic disadvantage is related to negative treatment outcomes (Kazdin & Wassell, 1999; McKay et al., 1999; Webster-Stratton & Hammond, 1990). Families residing in low-income neighborhoods have a smaller chance of receiving services and are more likely to drop out of treatment (Kazdin & Mazurick, 1994; McKay et al., 1999).

It is important to avoid approaching African Americans as inherently mistrustful, as this locates the problem within the African American client (Crawley, 2001). Instead, approaching the issue as "breaches of trust" and exploring roots of untrustworthiness within institutional structures as well as clinician behaviors results in a less biased approach (Crawley, 2001), which is important to avoid perpetuating racial bias in health care. Acknowledging barriers and biases that currently exist in health care institutions as well as one's own cultural biases and their influence on mental health treatment is critical (Whaley, 2001b). In addition, validating racism as a legitimate problem that influences mental health and mistrust as a reasonable way of coping with racism is important (Whaley, 2001b). Finally, familiarity with cultural mistrust theory and research may help practitioners avoid racial biases and subsequent negative outcomes when working with African Americans (Whaley, 2001b).

HARM REDUCTION AND RELAPSE PREVENTION CONSTRUCTS AND CULTURAL COMPETENCE CONSIDERATIONS

Discussions of Race and Racism: Preparing for Triggers

As discussed previously, racism is embedded within the foundation of U.S. society (Jones, 1997; Steele & Aronson, 1995). Research has indicated that

there is a link between racism and mental health in African Americans. And that racist discrimination is a predictor of blacks' psychiatric symptoms over and above other variables such as social class, generic stressors (e.g., being on welfare, getting arrested), and education (Klonoff, Landrine, & Ullman, 1999). Furthermore, it has been suggested that racism is a contributing factor to increased substance abuse among this population (Carter, 1994; Wingo, 2001). Despite this, racism often is not addressed in substance abuse treatment, which may be a significant oversight for African American clients (Rhodes & Johnson, 1997).

Racial microaggressions are a specific and more subtle type of racism that has recently received increased attention. These microaggressions are often rationalized and denied by those engaging in them but nevertheless leave distinct, lingering discomfort in the recipient. Racial microaggressions are in many ways more harmful than more overt forms of racism due to their ambiguous nature. In fact, some people of color feel that overt racism can be easier to deal with than microaggressions (Solorzano, Ceja, & Yosso, 2000). "Although overt forms of racial domination described thus far were enormously destructive, covert color bars have been, in a certain sense, even more insidious" (Kennedy, 1989, p. 1752).

Racial microaggressions are pervasive, automatic, and frequently delivered unconsciously, and include dismissive looks, tones, gestures, and so forth (Sue et al., 2007). People who engage in racial microaggressions are often unaware of their behaviors and their impact (Constantine, 2007). Likewise, individual recipients of racial microaggressions experience them differently depending on factors such as racial consciousness and sensitivity to racial issues (Constantine & Sue, 2007).

Sue and colleagues (2007) have identified three specific forms of microaggression: microassault, microinsult, and microinvalidation. Microassault refers to explicit racial derogation usually in the form of a verbal or nonverbal attack (e.g., avoidant behavior or name calling). Microassaults are most similar to what many people consider racism in that they are overt and deliberate. Microinsult refers to communications that demean an individual's racial identity or heritage through insensitivity and rudeness (e.g., subtle snubs). Microinvalidation consists of communications that exclude a person of color's experiences, thoughts, and feelings (Sue et al., 2007).

Racism and racial microaggressions may represent unique triggers for relapse among African Americans. The difficulty of pinning down microaggressions results in overlooking their impact until they have built up to a point where the cumulative effect is overwhelming. This poses a serious risk for relapse. In addition, it can be difficult to predict the experience of racism in general, and racial microaggressions in particular, as these experiences are such a large part of African Americans' lives and may occur at any time or any place. Consequently, when conceptualizing racism and

microaggressions within a relapse prevention framework, it is critical to focus on the person's response to racism and microaggressions (i.e., coping).

While reviewing the literature on African American coping with racism is beyond the scope of this chapter, a few examples highlight the importance of addressing this in relapse prevention with African American clients and communities. Several coping strategies to manage the stress resulting from the experience of racism have been posited in the literature. Examples of coping strategies include: spirituality/religion, connection to heritage, connection to the collective group, self-value, social support, adaptive behaviors, avoidance of situations and people likely to exude racist attitudes and behaviors, and confrontation (Elligan & Utsey, 1999; Shorter-Gooden, 2004; Utsey, Adams, & Bolden, 2000). Assessing what strategies are available and effective for an individual and incorporating these strategies explicitly and concretely into relapse prevention (e.g., relapse road maps) is critical in preparing for lapse and relapse triggers associated with racism and microaggressions.

Abstinence Violation Effect Considerations

The importance of recognizing the difference between an initial lapse and a full-blown relapse has been emphasized within the relapse prevention framework. Attributing the lapse to personal failings or internal factors outside of an individual's control is more likely to result in a full-blown relapse. When engaging in cognitive restructuring around the abstinence violation effect with African Americans it is important to have some understanding of trends and patterns in drinking as well as drinking problems within the community. Some epidemiological research has suggested there are both high levels of abstinence and high levels of heavy, chronic drinking among African Americans (Herd, 1989). Some have referred to a "two worlds" phenomenon when describing African American drinking (Wallace, 1999), which refers to the finding that while overall prevalence rates of alcohol use are lower among African Americans than most other racial and ethnic groups, alcohol-related problems are higher. Future research needs to examine more fully the patterns of alcohol use and alcohol-related problems among African Americans before conclusions are drawn, but consideration of this "two worlds" phenomenon supports exploring the abstinence violation effect with a community perspective. Perhaps the jump from lapse to relapse is shorter for an individual who identifies with a community where moderate drinking is not common. This possibility is important to recognize when engaging in culturally relevant cognitive restructuring with African Americans in a relapse prevention framework.

Self-Efficacy Considerations

In many collectivist cultures, interdependence is valued over independence (Sue & Sue, 2003). Considering self-efficacy among African Americans requires the concept of self-efficacy to be broadened. One way this has been discussed in the literature is through a focus on collective efficacy, which refers to the communal belief among a group of individuals in their ability to effectively organize and complete the necessary steps to accomplish particular goals (Bandura, 1997). Blume and Garcia de la Cruz (2005) suggest that it may be the case that collective efficacy, in addition to self-efficacy, is critical in preventing relapse among members of collectivist communities. It is important, then, to consider the role of collective efficacy in relapse prevention among African Americans and to determine the degree to which this should be incorporated into treatment. For example, increased identification with a sense of collective efficacy about African American communities overcoming substance use problems, which are fueled in part by structural expressions of racism, may bolster individual self-efficacy for resisting lapse/relapse.

Another consideration that stems out of the focus on interdependence is the importance of interpersonal factors involved in relapse. Intrapersonal and interpersonal determinants of relapse have been articulated (Larimer, Palmer, & Marlatt, 1999). There is little understanding regarding what will predict relapse in African Americans, but it has been suggested that an individual who holds a collectivistic worldview may have greater vulnerability to interpersonal determinants of relapse (Blume & Garcia de la Cruz, 2005). Therefore, heightened focus on interpersonal determinants of relapse when working with African Americans is an important consideration.

Social Network Considerations

Consideration of social networks is an essential aspect of relapse prevention among African Americans. The African American church is a vital resource that is often overlooked in addressing recovery and relapse prevention for African Americans. Although religious institutions have historically offered space for Narcotics Anonymous (NA) and Alcoholics Anonymous (AA) meetings, these services are disproportionately underrepresented among African American faith-based organizations. Working with faith-based organizations in black communities to increase substance abuse services is imperative to the reduction of relapse. Substance abuse services within African American faith-based organizations should include programs that promote self-efficacy, foster a sense of accomplishment among substance-using parishioners, and utilize the faith-based community as a source of

support. Linking faith-based organizations with existing treatment facilities will improve overall service delivery and social support for African American individuals and their families.

There is a great deal of social pressure placed on African Americans to engage in risky behaviors. The media, hip-hop videos, and TV often portray African Americans as individuals who use large quantities of drugs and alcohol and that this substance use is a marker for claims of group belonging. Certainly, the common “being black enough” discourse has permeated every aspect of both African American life and the larger social reality (Kennedy, 2008). This reality is perhaps best exemplified by the discussions regarding President Barack Obama and his legitimacy and authenticity as a black man.

When the use of drugs and alcohol are equated to being “black enough,” the individual feels a great deal of social pressure to use drugs and alcohol. Assessing and validating this social pressure and identifying this pressure as an external (situational) factor will assist individuals in their self-efficacy judgments with regard to substance use. It is also important to validate the strength of this social pressure, explore what it means to not be “black enough,” and provide and support skills to negotiate the high risk inherent in situations where group belonging is questioned. Development of cognitive restructuring strategies aimed at countering such pressures could profit from the rich legacy of African American sobriety exemplified by individuals of unquestioned “blackness”—such as Malcolm X, Maya Angelou, Curtis Mayfield, and Angela Davis.

Decision-Making Considerations

For African Americans who live in severely economically depressed neighborhoods that are largely segregated a large number of day-to-day decisions carry high stakes. In many poor African American neighborhoods, services are limited. Often neighborhood stores and markets are small and have a larger variety of alcohol than food products. There is research evidence that alcohol manufacturers advertise disproportionately in poor African American neighborhoods and heavily market high-alcohol-content beverages in these communities (Alaniz & Wilkes, 1998; Kwate, 2007; Kwate & Lee, 2007). For an African American individual, entering a neighborhood market to buy food or other necessities is an impossibly tempting high-risk situation. In effect, many daily experiences for African Americans living in economically depressed neighborhoods are in effect “apparently irrelevant” or “seemingly unimportant” decisions. Exploring the multitude of such subtle decisional processes faced by the individual and how these decisions are justified and even supported by the surrounding environment will assist in avoiding and coping with impossibly tempting situations.

CONCLUSION

There is very little research addressing harm reduction and relapse prevention with African Americans. This chapter represents a preliminary foray aimed at addressing this deficiency. In so doing, we sought to identify important historical and demographic contexts, articulate resiliency factors, and illustrate how harm reduction/relapse prevention constructs might interface with these historical/demographic and resiliency factors. Given the scant scholarship available on harm reduction/relapse prevention with African Americans, some of the ideas and suggestions embodied in this chapter constitute informed speculations derived from both the existing literature and from the collective clinical, research, and teaching experiences of these African American authors. As such, this writing should be interpreted as a preliminary offering. We hope that this chapter stimulates further conceptual development of harm reduction/relapse prevention applications with African Americans and especially inspires empirical insights gathered by more deliberate harm reduction and relapse prevention research among African Americans.

One barrier to research has been the effective recruitment and retention of African American participants. We hope that the considerations above will assist in developing and maintaining collaborations between harm reduction and relapse prevention researchers and the larger African American community. In addition, there have been several recent publications addressing the challenges of African American participation in research as well as strategies to address these challenges (Armstrong, Crum, Rieger, Bennett, & Edwards, 1999; Hatchett, Holmes, Duran, & Davis, 2000; Kerkorian, Traube, & McCay, 2007; Smith et al., 2007).

Harm reduction and relapse prevention approaches must be culturally competent on both the individual and community level for African Americans. An accurate understanding of how an individual perceives his or her race, social status, and relationship to and position in the community is crucial in providing accurate feedback and tailoring an effective treatment plan. A health provider is just as likely to encounter an African American whose religious and Afrocentric views greatly influence her behavior as the provider is to encounter an African American for whom religion is not an influencing factor and there is an avoidance of Afrocentric values and beliefs.

An overarching provider objective is to build a trusting relationship wherein the provider inquires about values and beliefs to understand perceptions of self as an individual, as a family member, and as a member of the larger African American community. A discussion of race and perceptions and experiences of racism is also important in understanding an individual's worldview and identifying environmental triggers specific to being African American. However, such a discussion necessitates that the pro-

vider fully embrace the task of cultivating his or her own cultural competence, as outlined earlier in our working definition of cultural competence. In fact, without this broader context of enhanced cultural competence, provider-initiated discussions of race and racism with African American clients could potentially backfire, undermining rapport. Finally, more research is needed to explore the various structural and societal factors discussed in this chapter and how they can be effectively addressed. Harm reduction and relapse prevention offer promising approaches to addressing the multitude of substance use and abuse issues that negatively affect African American individuals, families, and communities. However, much more conceptual and empirical scholarship is needed to determine how best to apply harm reduction and relapse prevention approaches to African American communities. We hope the ideas and suggestions offered in this chapter will provide some guidance for such future developments.

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CHAPTER 10



Harm Reduction among Hispanic and Latino Populations

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The rich tradition of harm reduction programs was initially conceived and developed by disempowered people (Marlatt, 1998). Therefore, it should be no surprise that harm reduction programs are ideally suited to aid members of disempowered groups within larger societies, such as ethnic and sexual minorities. The emphasis on a community-based grassroots approach to providing people with empirically supported harm reduction services has empowered those who might be otherwise disempowered in society to make healthy lifestyle changes. Within this context, harm reduction services have found great appeal among Hispanic and Latino people in the United States.

THE NEED FOR SERVICES: HEALTH DISPARITIES AMONG HISPANIC/LATINO AMERICANS

Hispanic/Latino people in the United States now constitute the fastest-growing and largest ethnic minority group in the country (U.S. Census Bureau, 2007). Vast heterogeneity among people classified broadly as His-

panic or Latino makes global statements about this population difficult. However, harm reduction strategies are well suited to address health risks that have particularly high prevalence rates among Hispanic/Latino Americans, such as substance abuse and sexually transmitted diseases.

Health problems associated with alcohol abuse have occurred among Hispanic/Latino adults at rates higher than those found in the general population. The need for culturally relevant alcohol treatment services is illustrated by the most recent figures available showing leading causes of death in the United States. The federal government has determined that cirrhosis and other liver diseases constitute the sixth leading cause of death for Hispanic/Latino Americans, whereas liver disease is the twelfth leading causes of death among non-Hispanics/Latinos (National Center for Injury Prevention and Control, 2007). Alcohol also has been linked to a large number of traumatic accidents among Hispanics/Latinos admitted to emergency departments (Cherpitel, 1998). As Hispanic/Latino Americans have acculturated, or functionally adapted to living in the United States (see Chun, Organista, & Marín, 2003, for more details about acculturation), they have tended to experience greater problems associated with binge and heavy drinking (Abraído-Lanza, Chao, & Flórez, 2005; Chambers et al., 2005; Cherpitel, 1999; Elder, Broyles, Brennan, de Nuncio, & Nader, 2005; Escobar, 1998; Gil, Wagner, & Vega, 2000), especially among young males (Caetano, 1987). For example, in one university study in the United States, Hispanic/Latino students were found to engage in binge drinking at higher rates than any other student ethnic group (Bennett, Miller, & Woodall, 1999).

Unfortunately, Hispanic/Latino Americans with substance abuse problems have been underserved by traditional treatment centers in the United States, with rates of admission to treatment found to be much lower than epidemiological prevalence rates of substance use disorders in this population (National Institute on Alcohol Abuse and Alcoholism, 1997). One recent community-based study found that Hispanics/Latinos were three times less likely to utilize substance abuse treatment services than non-Hispanic whites (Tighe & Saxe, 2006). Little is known about why disparity in treatment seeking exists, although one study found evidence that Hispanic/Latino clients were significantly more likely to delay entry into treatment than non-Hispanic/Latinos, usually because of reluctance to admit to having problems and difficulties related to being separated from families (Kline, 1996). On the other hand, there is evidence that traditional 12-step treatment may not be as effective for people of Hispanic/Latino origin as it is for other groups (Arroyo, Miller, & Tonigan, 2003), suggesting that traditional abstinence-based treatment may not necessarily be the best option for Hispanic/Latino Americans.

Risk of HIV infection is lower overall among Hispanic/Latino Americans than it is in other population groups in the United States, but these

data do not tell the entire story. For example, Puerto Rico had the 10th highest number of AIDS cases through 2005 among U.S. states and territories. In addition, other states and territories listed in the top 10 in U.S. prevalence also claim significant Hispanic/Latino populations, such as New York, Florida, California, and Texas (Centers for Disease Control and Prevention, 2007). Evidence suggests that Hispanic/Latino Americans at greatest risk for contracting HIV have low rates of condom use and seeking testing for HIV, suggesting the possibility that infection rates may increase to the future (Sabogal & Catania, 1996).

Language and Other Barriers to Services

Language barriers undoubtedly prevent Hispanic and Latino consumers from seeking or receiving health care services in the United States. As an example, one study showed Hispanic/Latino methadone patients in treatment for cocaine dependence and comorbid depression had lower rates of treatment completion than individuals from other ethnic backgrounds receiving the same treatment (Rosenblum et al., 1999). Researchers noted that many Hispanic/Latino participants in this study did not speak fluent English, and as a result they were not as involved in group interactions. Language barriers may have marginalized Hispanics/Latinos with lower rates of acculturation and contributed to greater treatment dropout.

In recognition of potential communication barriers between Hispanic patients and non-Hispanic substance abuse treatment providers (e.g., Pérez-Arce, Carr, & Sorensen, 1993; Sue & Sue, 2003), Dansereau and colleagues evaluated a visual mapping technique that can be used in substance abuse treatment with different ethnic groups (Dansereau, Joe, Dees, & Simpson, 1996). In node-link mapping, the nodes contain thoughts, feelings, or actions. Links are used to represent the relationships between nodes. The sample in this study consisted of Anglo American, African American, and Mexican American opiate addicts from methadone maintenance clinics in Texas who were randomly assigned to either node-link mapping enhanced counseling or standard counseling. Within each condition, patients were randomly assigned to one of several counselors with varying ethnic backgrounds. Results of this study indicated that Mexican Americans in the mapping condition significantly reduced the frequency of positive cocaine urinalyses and received higher ratings of motivation from their counselors than those in the standard condition. Participants also had reduced positive urinalyses for opiates. These differences between treatment groups were not found for Anglo participants. This study demonstrated that patients and counselors need not communicate fluently through verbal language to cultivate a beneficial treatment environment that can lead to desirable therapy outcomes.

Other barriers to accessing and utilizing services include socioeconomic variables. In order to explore disparities in treatment utilization, an examination was conducted using a large database containing information about injection drug users in the Massachusetts drug treatment system (Lundgren, Amodeo, Ferguson, & Davis, 2001). Of all ethnic groups studied, Hispanics/Latinos were most likely to participate in detoxification and not continue on to receive additional treatment. Their rates of entering methadone maintenance treatment (MMT) were similar to those of non-Hispanic whites but significantly higher than African American rates. Hispanics/Latinos were significantly less likely to have entered residential treatment than non-Hispanic whites and African Americans. Participants who entered residential treatment generally had more education, higher incomes, and private health insurance. Hispanic/Latino individuals were most likely to report heroin as their primary drug and had the highest rates of drug injection in the preceding month of all groups. Lack of financial resources can serve as a barrier to Hispanics and Latinos completing substance abuse treatment as recommended.

Gender Disparities

An examination of treatment and health care among Hispanic/Latino substance-using individuals living either in East Harlem, New York or Bayamón, Puerto Rico found gender disparities in both regions (Robles et al., 2006). Female drug users in New York reported poorer health than men, including greater rates of depression and chronic illness. Women were more likely to participate in methadone maintenance treatment, but they did not receive more intensive mental and physical health care that would be commensurate with their needs when compared to men. New York participants of both genders with health insurance were significantly more likely to enter drug treatment, and among injection drug users females were five times less likely to receive substance abuse treatment. In Puerto Rico, males using substances were more likely to be living with their families, whereas female substance users were commonly homeless. The investigators interpreted this to be a possible result of disparate societal gender expectations, since drug use is more socially acceptable for males (Robles et al., 2006).

HISPANIC/LATINO CULTURAL CONSIDERATIONS

Tailoring interventions to be culturally relevant involves more than speaking the same language as a participant or matching provider and patient on characteristics such as race and gender. As Wilson and Miller (2003) highlight in their review, cultural sensitivity in research and practice is a rich, multifaceted concept that necessitates a great deal of consideration

when working with people from different backgrounds. Furthermore, when working with individuals in areas such as sexual behavior or substance use in which some aspects may be taboo in particular cultures, great care must be taken to understand values and beliefs of others.

Hispanic and Latino Americans originate from many places, including Mexico, Central America, South America, the Caribbean, and even some who will identify their family lineage as being directly from Spain. People migrating to the United States from these different geographical areas have their own unique histories, traditions and practices, spiritual beliefs, indigenous roots, and Spanish dialects that create vast cultural variations. Practically speaking, these cultural variations will likely influence what types of harm reduction practices will fit well for a particular client. Therefore, it is important to consider the practices and beliefs of the client's Hispanic/Latino subgroup when matching harm reduction strategies and services.

With this being said, some cultural tenets tend to be true for many Hispanic/Latino people, regardless of origin. These cultural principles include *familismo*, specified gender roles (*machismo/marianismo*), *respeto*, and *simpatía* (Bracero, 1998; Sabogal, Marín, Otero-Sabogal, Marín, & Pérez-Stable, 1987; Triandis, Marín, Lisansky, & Betancourt, 1984). *Familismo* is a cultural principle that describes the importance of close relationships in defining personal identity and role. Families are often the center of everyday activities, and many families operate as collective units rather than as groups of individuals. Family units are typically multigenerational and often include family friends. *Familismo* implies more than family, though, because it emphasizes the importance of community values. Families are the building blocks of community, and communities are organized large, extended families.

Substance abuse treatment often focuses on treating the individual, but addressing the role of a patient's social network (honoring *familismo*) may be an effective way to work toward improving outcomes of treatment among ethnic minorities including Hispanic/Latino clients (El-Bassel, Chen, & Cooper, 1998). For example, interviews with women receiving treatment in Harlem methadone clinics supported other research that emphasized the importance of Latinas' social networks in their recovery from substance use disorders (Grella, Annon, & Anglin, 1995). The significance of relationships with partners, family, and friends can facilitate treatment efforts if these relationships are formed with individuals who comprise a positive, supportive community. Conversely, social networks that do not provide needed support can be barriers to accomplishing treatment goals. Working with Hispanics/Latinos to honor *familismo* in ways that support reduction of harm and maximize social support can be a valuable treatment strategy.

In Hispanic/Latino families, there are often traditional prescribed roles for family members, and some of these traditional values incorporate pre-

scribed gender roles, referred to as *machismo* for men and *marianismo* for women. *Machismo* has been negatively stereotyped in recent years, but the true sense of the gender ideal is for men to be defenders and advocates for family members (Caetano & Galvan, 2001). On the other hand, *marianismo* is the female gender ideal that suggests women are the source of nurturing and moral strength of the family. However, Hispanic/Latino gender roles tend to vary greatly, so generalizations can be troublesome (DeSouza, Baldwin, Koller, & Narvaz, 2004). For harm reduction, being sensitive to traditional gender roles is important to understanding the context in which interventions are to take place, as well as garnering an appreciation for potential barriers for seeking and utilizing services.

Respeto is another important principle of Hispanic/Latino culture. *Respeto* is the idea that personal honor is important and is defined by dignified personal and social behavior. Individuals act with respect that honors family, with the utmost honor in social interactions, and an even higher level of social respect is often shown to community elders and those with high community social status. Another important cultural principle governing social relationships is *simpatía*, which suggests that others are to be welcomed warmly in personal interactions. Social interactions include the extension of gracious hospitality, generosity, warmth, and politeness toward others.

Harm Reduction That Respects Hispanic/Latino Culture

Harm reduction therapists must respect and appreciate traditional cultural values when implementing harm reduction programs in Hispanic/Latino communities. For example, harm reduction strategies in Hispanic/Latino communities should respect the strength of family systems in Hispanic/Latino homes. Behavior change is not merely an individual decision in many Hispanic/Latino households, but rather a collective decision made in consultation with and support of family members. Because of this, a family harm reduction model may be more appropriate than the individual models that are most typically devised to meet the needs of clients. It would be naive for a harm reduction therapist to assume that all decisions for behavior change are made autonomously by Hispanic/Latino clients without consideration for family. Instead, the harm reduction therapist can look at the family as a source of strength to support an individual in the change process, and therefore attempt to enlist family participation and support into harm reduction programs.

Furthermore, a community-oriented harm reduction model should be used. Key community stakeholders should be consulted on the development and implementation of harm reduction programs that target Hispanic/Latino Americans. Involving community leaders will increase the credibility of programs in the Hispanic/Latino community, thereby increasing the

likelihood they will be accessed and utilized. Consulting with Hispanic/Latino leaders on their development and implementation will also increase the cultural compatibility and relevance for potential clients. Key stakeholders often include acknowledged elders in the community, such as spiritual leaders and community activists.

Therapists also have to be familiar with traditional gender roles when developing harm reduction interventions. There may be some social pressures placed on clients related to these traditional roles that will need to be accounted for and addressed by cultural intervention strategies. For example, traditional machismo has been associated with drinking and driving (Fiorentino, Berger, & Ramirez, 2007), and machismo and marianismo have been associated with unprotected sex (Dolezal, Carballo-Díéguez, Nieves-Rosa, & Díaz, 2000; Moreno, 2007) and domestic violence (Galanti, 2003; Moreno, 2007).

Moderation as a Spiritual Precept

Hispanic/Latino culture has deep spiritual roots. Many people of Hispanic/Latino origin have indigenous roots. Many of the indigenous beliefs have found their way into the cultural practices and celebrations of Hispanic/Latino people. Important cultural celebrations (e.g., Day of the Dead) have merged traditional indigenous practices with postcolonial religious practices. In order to be effective in providing harm reduction services, therapists and researchers need to understand the history of the merging of cultures that have occurred and how these beliefs and practices continue to influence people of Hispanic/Latino origin. It also must be understood that many clients may be seeking traditional healing services (likely from *curanderos*) concurrent with any harm reduction programs being provided. A prudent course may be to ally culturally relevant harm reduction programs with traditional healing services to increase access and cultural credibility, especially among unacculturated clients.

In addition, many Hispanic people have deep roots in Roman Catholicism, and the Roman Catholic church continues to have great influence over the lives of its Hispanic adherents. One of the basic tenets of Roman Catholicism is the belief in moderation. Traditional Roman Catholic theology recognizes that humans are both physical and spiritual creatures, and that activities in life are to reflect this tension. Balance in all things and moderation in worldly activities is recommended. Experiencing physical pleasure is an important part of being human, but the spiritual goal is to seek pleasure in moderation. The spiritual precept of moderation is perfectly suited to harm reduction.

One difficulty for harm reduction efforts created by the Roman Catholic church involves edicts by church hierarchy that have forbidden the use of contraceptives, including condoms, proclaiming contraceptives as contrary to natural laws that provide for sexuality as a means of procreation. The

position of the church on this critical issue has been detrimental to promoting the use of condoms for safe-sex practices among adherent Roman Catholics, including Hispanics/Latinos, although believers in the United States have not uniformly accepted the church's teachings on contraceptives, including condom use. In fact, some church authorities and agencies in the United States have actively circumvented the teachings in order to promote safer sex, but they often do so at the risk of being ostracized or condemned by church authorities when caught.

Harm Reduction as Liberation

Liberation is also a very powerful symbol among people of Hispanic roots. Hispanic culture was founded in colonialism, and great liberation movements developed, especially from the 19th century onward, beginning in politics. Simón José Antonio de la Santísima Trinidad Bolívar y Palacios, better known as Simón Bolívar, and José Francisco de San Martín Matorras, better known as José de San Martín, along with others led liberation movements in Central and South America in the early 18th century; Miguel Hidalgo and later Benito Pablo Juárez García, better known as Benito Juárez, led similar efforts in Mexico (Chasteen, 2005).

Liberation as a theme has been infused into the spirituality of many believers in Latin America and the Caribbean. Liberation theology, which was developed from the teachings of Jesus of Nazareth about the righteousness of the poor and oppressed, arose and was often joined with socialist political efforts in these areas during the last 30 to 40 years. Many poor and dispossessed citizens have found appeal in the messages that provide hope to economically disadvantaged and politically oppressed people. Although there have been political and religious backlashes upon those who believe in liberationism, the movement continues to be popular in Latin America today (CQ Researcher, 2007).

Harm reduction programs fit the liberation theme well. The history of harm reduction has been one in which disempowered people become empowered by the programs that they have been stakeholders in developing. Use of the liberation theme should be considered in culturally relevant harm reduction efforts within Hispanic/Latino communities in order to broaden the appeal to the community being serviced.

HARM REDUCTION PROGRAMS

Very few harm reduction programs have been developed to specifically serve the needs of Hispanic/Latino Americans. Although little harm reduction research has been conducted among Hispanic/Latino communities when compared to other populations, the present body of research supports the usefulness of culturally relevant harm reduction programs for alcohol use,

other substance use, and prevention of HIV and other sexually transmitted diseases (STDs). The following section reviews the extant literature in these areas.

Harm Reduction Research for Alcohol Use

Research testing alcohol harm reduction programs has been extremely limited. Perhaps the most interesting study is Project MATCH, a large randomized clinical trial funded by the National Institute on Alcohol Abuse and Alcoholism (Project MATCH Research Group, 1998) that was not necessarily intended to be a test of harm reduction. However, the results showed very clearly that many people reduced the harmful consequences of drinking without necessarily abstaining from alcohol. In addition, two of the interventions being tested in the study did not require abstinence as part of the therapies: cognitive-behavioral therapy (CBT) and motivational enhancement therapy (MET). Only the 12-step facilitation therapy (TSF) promoted abstinence as an ideal goal for participants randomized to the condition. Although a minority of participants in Project MATCH were Hispanic/Latino, the study had sufficient numbers to conduct analyses examining outcomes among these participants.

Data from one of the Project MATCH sites were examined to assess disparities between participants who identified themselves as Hispanic and those who self-identified as non-Hispanic white (Arroyo et al., 2003). Across the three treatment conditions (i.e., CBT, MET, and TSF), Hispanic participants evidenced similar decreases in frequency and quantity of alcohol consumption following treatment. However, white non-Hispanic participants in the TSF condition drank significantly less following treatment than white participants in other treatment groups. Of individuals in the TSF condition, Hispanic participants attended significantly fewer Alcoholic Anonymous meetings than white participants during treatment and following treatment (3, 6, and 9 months posttreatment). Lower rates of attending Alcoholics Anonymous meetings in addition to posttreatment data that fail to show an advantage for TSF treatment among Hispanic/Latino participants demonstrate that traditional treatment approaches may not be as good of a match for these clients as they were for non-Hispanic whites, although there is some evidence that Hispanic/Latino participants may have compensated with other nontraditional treatment resources that may have been culturally derived (Tonigan, 2003).

Harm Reduction Programs among Hispanic/Latino Adolescents and Young Adults

Evidence suggests that harm reduction programs may effectively intervene upon risky substance use by adolescents and young adults, popula-

tions at high risk for suffering harmful consequences of substance misuse. One such program used a school-based curriculum that was to be culturally relevant for student members of three different ethnic groups. One part of the curriculum was developed to be culturally relevant to Mexican American culture, which was compared to similar programs developed to be culturally relevant to traditional majority European American culture (for non-Hispanic white students) and for African American culture (for African American students). Each curriculum was matched to students from specific ethnic groups so that Mexican-origin students received the curriculum developed with sensitivity to Mexican culture. The results of the study found that students in the culturally relevant intervention group reported less substance use and greater evidence for improved skills for managing high-risk situations when compared to a control group (Kulis et al., 2005).

Another culturally relevant intervention program (ATTAIN) targeting Hispanic/Latino adolescents (as well as African Americans) in the juvenile justice system incorporated elements designed to address daily living concerns such as ethnic mistrust, prejudice and discrimination, ethnic pride, and acculturation issues. Early results from this study have found that Hispanic/Latino participants had significant reductions in number of days of substance use over the course of the intervention (Gil, Wagner, & Tubman, 2004).

Adapting the Alcohol Skills Training Program for Hispanic/Latino College Students

The alcohol skills training program (ASTP) is an empirically supported harm reduction program developed for use among college students (Fromme, Marlatt, Baer, & Kivlahan, 1994). The program was initially developed and tested in a historically white university. And although one of the strengths of the program was to create harm reduction content relevant for the college student users of the program, making the ASTP culturally relevant for students from nonmajority cultures was not one of the goals of the program. A successful effort to make the ASTP program culturally relevant for Hispanic/Latino college students of Mexican origin was tested years later in Texas (Hernandez et al., 2006). In this study, students who participated in the culturally relevant ASTP harm reduction intervention drank less and had fewer alcohol-related consequences after the intervention. The culturally relevant ASTP seems to be a promising harm reduction program for Mexican American college students.

The methods used to develop the culturally relevant ASTP intervention may serve as a type of template for transporting other empirically supported harm reduction programs for use among Hispanic/Latino Ameri-

cans. The basic principle was to consult with and use stakeholders of the community being intervened upon, in this case, Mexican American college students, at every step of the process. To involve intervention stakeholders in the development and implementation of programs is a consistent principle for providing effective harm reduction interventions. The first step was to have students (undergraduate and graduate) revise the existing English language ASTP manual into Mexican Spanish, including revisions to make the case studies and examples in the manual more culturally relevant. Drinking data collected from the community in previous studies was used to guide the manual revisions, especially regarding alcohol expectancies and drinking myths in the local community. Second, the revised manual was taken to students (undergraduates) in focus groups conducted by students (graduate). The goal was to collect feedback on the relevance of the manual and other programmatic material for the community being targeted in the intervention. The critiques, edits, and comments were incorporated into another revision of the manual and the program. Third, students (undergraduate and graduate) made certain that new translation of materials was not significantly different than those empirically supported in the English language efficacy trial, by back-translating the materials into English and checking for significant differences (which were not found in this instance). Fourth, student stakeholders provided feedback throughout the intervention trial that was used to better understand what the intervention stakeholders thought of the program, which subsequently could be used to improve the quality of the program.

Specific examples of cultural revisions in the program that occurred directly as a result of including intervention stakeholders (students) in its development and implementation included addressing culturally relevant myths about avoiding the negative consequences of drinking, addressing local and culturally relevant drinking games (using local slang), and discussing culturally relevant gender differences in drinking behavior (*machismo* and *marianismo*). The culturally revised ASTP also included role play to practice drink refusal skills in cordial and respectful ways with peers as initially developed but also in situations where family members may be exerting pressure on the students to drink in excess at family celebrations (fiesta drinking events).

Harm Reduction for Other Substance Use

Evidence of the utility of harm reduction for substances other than alcohol among Hispanic/Latino communities is much stronger simply because many more studies have been conducted. Many of these studies involve study of the efficacy of methadone management programs as well as needle exchange programs. The following paragraphs review findings in these areas.

MMT employs a harm reduction approach that helps individuals dependent on opiates to slowly decrease their opiate intake. Studies have investigated the efficacy of this modality in treating Hispanic/Latino individuals with opiate dependence disorders. For example, Hispanic/Latino participants in MMT in New York were evaluated shortly after their entry into the programs and 6 months later (Mulvaney et al., 1999). The Addiction Severity Index (McLellan et al., 1992) was used as a primary outcome measure. At follow-up, reductions were found for MMT patients in six of the seven ASI problem areas: medical, employment, alcohol, drug, legal, and family/social. These improvements were observed in both men and women and did not statistically vary by gender.

In Southern California, 1,728 individuals who were active injection drug and crack cocaine users participated in a study designed to assess the needs of this ethnically diverse population (Fisher et al., 2004). None of the participants were in treatment at the time of data collection. Hispanic/Latino participants ($n = 404$) were significantly more likely than non-Hispanic ($n = 1,324$) to report ever taking part in MMT (38% and 20%, respectively). Hispanic/Latino participants also reported greater numbers of injections in the preceding 30 days. None of these differences were found when comparing Mexican American participants to those who identified themselves as Mexican origin. Results from this study may indicate changes that have occurred in Hispanic/Latino drug treatment utilization over time. In previous examinations conducted with groups possessing similar demographic characteristics, Hispanic participants were less likely to report that they had received treatment (Longshore, Hsieh, Anglin, & Annon, 1992) and indicated they felt less need for treatment (Longshore, Hsieh, & Anglin, 1993). The discrepancies in these studies were maintained when controlling for other related factors, such as level of drug dependence.

While MMT has demonstrated effectiveness as a method of treating physiological dependence on heroin and other opiates, by virtue of its pharmacological nature it does not aim to treat substance users in a holistic manner addressing multiple facets of biopsychosocial health. As such, additional services for methadone maintenance patients that treat varying aspects of physical and psychological health can be utilized to supplement MMT and may lead to more positive outcomes (Wu, El-Bassel, Gilbert, Piff, & Sanders, 2004). Availability of supplemental services may differ based on socioeconomic factors, which can affect treatment effectiveness. A study of males from varying ethnic backgrounds taking part MMT programs found Hispanic/Latino participants utilized significantly fewer additional services than Anglo American participants (Wu et al., 2004). Those with health insurance and higher education levels were more likely to utilize additional services.

As part of a study that followed up on earlier results, data were collected from individuals who had been enrolled in MMT in Albuquerque, New Mexico, between 1969 and 1971 (Goldstein & Herrera, 1995). It was reported that nearly all were Hispanic/Latino. Of 1,019 participants, 428 were known survivors 22 years later. Nearly half of these survivors (48%) were enrolled in MMT at follow-up. Compared to those not receiving methadone, MMT participants evidenced significantly lower rates of using alcohol, heroin, and other illicit substances. They also reported less illegal activity and greater rates of steady employment.

The efficacy of needle exchange programs has been well documented and described in other chapters in this volume. Indeed, expansion of needle exchange programs has been recommended by those who have investigated how to improve harm reduction services to Hispanic and Latino people, with the caveat for the need to use culturally relevant means to motivate use of the program (e.g., Prado et al., 2006). For example, it has been found that Hispanics and Latinos who utilize needle exchange programs tend to be more highly acculturated than those who do not (Zule, Desmond, Medrano, & Hatch, 2001), suggesting there may be cultural barriers to seeking those services that will need to be addressed to improve utilization rates. On the other hand, it could also mean that the barriers are ones of accessibility for those who would be challenged to seek services that assume high levels of acculturation. Further research is needed to disentangle the potential barriers to use these potentially lifesaving harm reduction programs in Hispanic and Latino communities.

Harm Reduction Targeting Risky Sexual Behavior

Risky substance-using behaviors, particularly injection drug use, often are associated with risk for contracting HIV and other STDs. In a study conducted in New York City, participants included HIV-positive individuals who were Hispanic/Latino or African American and current users of cocaine/crack or heroin (Kang, Goldstein, & Deren, 2006). Differences between Hispanics/Latinos and African Americans were examined, and Hispanic/Latino individuals evidenced greater use of heroin and speedballs, while African Americans were more likely to use crack. Hispanic/Latino participants more commonly injected drugs. They also were more likely to be participating in drug treatment programs. Analyses showed being married and attending HIV support groups were associated with greater adherence to HIV medication regimens in Hispanic/Latino participants.

A prospective analysis of HIV incidence was conducted with Puerto Rican participants from New York and Puerto Rico who smoked crack or used injection drugs (Deren, Kang, Colón, Andia, & Robles, 2004). Seroconversion occurred at a significantly higher rate in participants from

Puerto Rico. Taking part in methadone maintenance treatment was a protective factor for seroconversion.

In an assessment of a street outreach program aimed at helping female sex workers in New York connect with substance abuse treatment, 144 women participated in a baseline interview as well as a 6-month follow-up (Nuttbrock, Rosenblum, Magura, Villano, & Wallace, 2004). Among participants in this study who used heroin, Hispanic/Latino women were more likely to have sought detoxification and MMT than women of other ethnicities.

As part of a project aimed at reaching women with nonviral STDs, researchers gathered ethnographic data about values, norms, and concerns of Hispanic/Latino women regarding STDs (Shain et al., 1999). Cultural strengths, such as a desire to protect one's family, were incorporated into small-group cognitive-behavioral interventions for Hispanic women with the guidance of a team from diverse backgrounds who utilized information gained from gathering ethnographic data. Females who participated in this intervention rather than a control condition evidenced decreased risky sexual behavior and lower incidence of STDs.

Several culturally specific prevention and treatment efforts have been developed to target ethnic minorities who may be engaging in harmful substance use or sexual behavior, although some lack methodological rigor and should continue to be evaluated. In a comparison between a culturally targeted intervention and a standard program to reduce HIV risk, an intervention aimed at Puerto Ricans used staff that spoke Spanish with a Puerto Rican dialect, emphasized the impact of HIV on the entire family, and addressed gender roles (Dushay, Singer, Weeks, Rohena, & Gruber, 2001). At follow-up, participants from the culturally targeted group did not differ in their behaviors from those who took part in the nonspecific intervention. Another study found that using culturally relevant values within empirically supported interventions, such as addressing machismo, was particularly effective to increase condom use and reduce HIV infection among Hispanic/Latino Americans (Herbst et al., 2007).

Another study utilized focus groups, observations at an STD clinic, interviews with staff, and patient surveys to design a video relevant to Hispanic/Latino culture for use in a patient education program (O'Donnell, San Doval, Vornfett, & DeJong, 1994). Gender roles and cultural scripts regarding how to approach condom use, how HIV/AIDS can be prevented, and the importance of nonverbal communication emerged during data collection. Participants in the study were assigned to watch the video, watch the video, and engage in a skill-building interaction session, or they were assigned to the control group (O'Donnell, San Doval, Duran, & O'Donnell, 1995). Results showed decreased incidence of STDs among Hispanic/Latino males who viewed the video (O'Donnell, O'Donnell, San Doval, Duran, & Labes, 1998).

SUMMARY AND CONCLUSION

Although culturally relevant harm reduction programs have not been widely developed and implemented in Hispanic/Latino communities, there is evidence that they would be effective for reducing the harm caused by high-risk drinking, drug use, and sexual behavior among adolescents and adults. Key features of harm reduction, including moderation and liberation as goals, are ideally suited to appeal to the cultural history of Hispanic/Latino people. An important process in developing such programs is to include community stakeholders as key partners in the conception, development, implementation, and evaluation of culturally relevant harm reduction interventions. Important cultural values should be infused into the program. Spanish language interventionists and supplemental materials would be extremely helpful for improving the accessibility of the programs, using an appropriate dialect and slang for the community being served, accounting for educational level of participants.

Future researchers could help promote harm reduction in communities by engaging in community-based participatory research in this area. Previously validated intervention strategies among majority samples will need to be culturally revised and tested among Hispanic/Latino communities. Community stakeholders will be needed in these efforts to serve as equal partners in the research efforts. Given the rapidly changing demographics of the United States, there is great urgency for new efforts in harm reduction research in order to serve the changing population and reduce the treatment disparities that face Hispanic/Latino Americans. We hope this chapter provides a template for how to effectively carry out this new wave of clinical research.

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CHAPTER 11



Harm Reduction for Asian American and Pacific Islander Populations

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The Asian American and Pacific Islander (AAPI) population is anticipated to grow from 15.5 million to 40.6 million by the year 2042, representing one of the fastest-growing groups in the United States (U.S. Census Bureau, 2008). With this anticipated growth comes increasing concern that our understanding of how addictive behaviors affect AAPIs is limited and more research in this area is needed. Due to “model minority” stereotypes and the aggregation of AAPIs in research studies, AAPIs are often presumed to be relatively unaffected by addictive behavior problems (Caetano, Clark, & Tam, 1998; Lin & Cheung, 1999; Wong, Faith Lai, Nagasawa, & Lin, 1998). However, emerging evidence suggests that AAPIs may experience certain addictive behaviors at similar or higher rates than other ethnic groups (Harachi, Catalano, Kim, & Choi, 2001; Lee, Fong, & Solowoniuk, 2007; Zane & Kim, 1994). Moreover, many have posited that AAPIs may be reluctant to seek needed mental health and addiction services because of various structural and cultural barriers (Kung, 2004; Leong & Lau, 2001; Wong et al., 2007). Yet few studies have examined the applicability of existing addiction treatment approaches with AAPIs.

Harm reduction is an approach to addiction that is gaining increasing recognition (Marlatt & Witkiewitz, 2002). In contrast to traditional approaches that focus on a single goal of abstinence or the complete cessation of addictive behaviors, harm reduction approaches emphasize the reduction of negative consequences associated with addiction (Denning, 2000; Marlatt, 1998; Tatarsky, 2003). Thus, harm reduction supports multiple client-driven goals, recognizing any gains in individual and community quality of life as treatment successes. As with most other treatment approaches, there has been little empirical investigation on the effectiveness of harm reduction with AAPIs. The purpose of this chapter is to discuss the use of harm reduction with AAPIs. We begin by reviewing the research on addictive behaviors and addiction treatment among AAPIs. We then discuss areas in which cultural mismatches can arise within addiction treatment in general and the applicability of harm reduction principles to the AAPI population. Finally, relapse management techniques are often used in conjunction with a harm reduction philosophy. Based on available research, we describe clinical strategies for adapting relapse management for AAPIs.

ADDICTIVE BEHAVIORS AMONG AAPIs

AAPIs are commonly reported to experience relatively low addiction problems. For example, recent reports state that AAPIs have the lowest overall rates of past-year alcohol use (Grant, Dawson, et al., 2004; Hasin & Grant, 2004; National Survey on Drug Use and Health, 2002), past-month cigarette use (Giovino, 2002; Grant, Stinson, et al., 2004; National Survey on Drug Use and Health, 2006), and illegal drug use (Compton, Thomas, Stinson, & Grant, 2007). However, these reports tend to be based on small samples of AAPIs or samples where AAPIs are aggregated as one group (Caetano et al. 1998; Wong, Klinge, & Price, 2004). More than 35 subgroups encompass the category of AAPIs, and addictive behaviors may vary widely by each group based on history, cultural norms, living environments, region, biology, and availability and access to substances (Caetano et al., 1998; Gomez, Kelsey, Glaser, Lee, & Sidney, 2004; Hendershot, Dillworth, Neighbors, & George, 2008; Kim, Ziedonis, & Chen, 2007; Sue, 1999; Varma & Siris, 1996; Wong et al., 2004). For example, Chinese, Japanese, and Korean subgroups have exhibited deficiencies in aldehyde dehydrogenase (ALDH2), which is responsible for metabolizing alcohol. These groups might experience different physiological responses to alcohol because the deficiency is associated with slower alcohol metabolism and slower elimination of alcohol from the blood (Goedde et al., 1992). It has been suggested that this ALDH2 deficiency might also be associated with variations in progression to other substance use among Asian Americans

(Hendershot et al., 2009; Wall, Shea, Chan, & Carr, 2001). Accounting for subgroup differences within the AAPI population is important for addressing the specific needs of these groups. Furthermore, important within-group differences may significantly influence addictive behaviors. For instance, greater levels of acculturation have been associated with increased drinking (Hahm, Lahiff, & Guterman, 2003; Nakashima & Wong, 2000), whereas parental respect and school factors have been associated with lower rates of drinking among AAPI youth (Shih, Miles, Tucker, Zhou, & D'Amico, 2011). In a study with a nationally representative sample of AAPIs, generational status was positively associated with increased risk for substance abuse disorders (Takeuchi et al., 2007). Finally, there is growing evidence that discrimination and low ethnic identity impact the odds of developing an alcohol use disorder (Chae et al., 2008).

Although studies have generally found lower rates of addictive behaviors among AAPIs relative to other ethnic groups, there is some evidence that addictive disorders may be on the rise for AAPIs. For example, between 1991 and 2001, rates of alcohol dependence more than doubled among AAPIs, going from 4% to 10% (Grant, Dawson, et al., 2004). Epidemiological data also show that some drug use disorders may be higher than whites (Xu et al., 2011). Moreover, when rates are examined by AAPI subgroups or across different addictive behaviors, a very different portrait is revealed (Price, Risk, Wong, & Klinge). Research on adolescent and adult alcohol, tobacco, and other drug use show that Native Hawaiians and other Pacific Islanders report lifetime and past-month rates similar to, if not higher than, whites and are among the highest-using subgroup within the AAPIs (National Survey on Drug Use and Health, 2006; Wong et al., 2004). Adolescent and adult Japanese also report rates similar to whites for marijuana, cocaine, and other illicit drugs (Price et al., 2002). Among ninth- and 11th-grade students in California, lifetime use of any substance varied from 11% among Southeast Asians to 50% among Pacific Islanders, compared to 45% among non-Asians. Lifetime alcohol use varied from 47.5% among Southeast Asians to 77% among Pacific Islanders, compared to 80% among non-Asians (Harachi et al., 2001). Among AAPI adults in California, Japanese Americans have the highest prevalence of lifetime drinking (69%), while Chinese Americans again have the lowest (25%) (Zane & Kim, 1994).

Some evidence indicates that gambling may be a growing problem among AAPIs. For instance, although AAPIs make up about 10% of California's population, they comprise approximately 70% of the gamblers in California's casinos, due in part to aggressive marketing aimed specifically at AAPIs (California Department of Alcohol and Drug Programs, 2005; Commission on Asian & Pacific Islander American Affairs [CAPIA], 2005; Toy & Wong, 1999). The existing studies suggest that AAPIs are at higher risk for gambling problems than individuals of

other ethnicities. One study by Lesieur and his colleagues (1991) found that Asian Americans had the highest rate of gambling relative to African Americans, whites, and American Indians. Other investigators have found higher rates of gambling and more problem gamblers among Asian Americans than white Americans (Chan, Zane, & Saw, 2007; Saw, Zane, & Chan, 2007). For example, Chan, Zane, and colleagues (2007) found that among young adult gamblers in college, the proportion of potential problem gamblers among Asian Americans was substantial (47.7%) and almost twice that of whites (27.5%). Other small-scale, California-based sample studies suggest that ethnic differences in gambling rates are mediated by psychological distress (i.e., social phobia) (Chan, Zane, et al., 2007), motives to socialize with others (Saw et al., 2007), and coping styles to deal with negative affect and tension (Saw et al., 2007). History and trends in the AAPI culture may also influence and increase rates of gambling among AAPIs (Raylu & Oei, 2004). Collectively, these studies provide initial empirical support that ethnic differences in gambling exist between Asian American and white American young adults. Overall, findings suggest that monitoring addictive behaviors among AAPIs will continue to be important, especially as the AAPI population increases in the coming years. Monitoring will be especially important among the AAPI groups with the highest risk factors (i.e., Southeast Asian refugees, Koreans, and Filipinos) that represent some of the fastest-growing groups in the AAPI population.

TREATMENT UTILIZATION AND OUTCOMES AMONG AAPIs

Based on evidence primarily from the mental health literature, AAPIs experience significant levels of unmet need. AAPIs have been depicted as having less access to services and poorer quality of mental health care (U.S. Department of Health and Human Services, 2001). AAPIs often experience worse outcomes in mental health treatment (Lee & Mixson, 1995; Zane, Hall, Sue, Young, & Nunez, 2004; Zane, Enomoto, & Chun, 1994; Zane & Kim, 1994). Among the available literature on addictions treatment utilization, research suggests that AAPIs with past-year substance dependence are less likely to report past-year treatment compared to substance-dependent whites and are six times less likely to perceive a treatment need (Sakai, Ho, Shore, Risk, & Price, 2005). Among AAPIs who utilize drug treatment, they report more negative attitudes toward treatment and fewer total services than non-AAPIs (Niv, Wong, & Hser, 2007). However, unlike mental health treatment, some studies show that AAPIs in substance use treatment show no ethnic group differences in treatment duration and retention (Niv et al., 2007; Zane et al., 2004). More research is needed to examine issues of addictions treatment among AAPIs.

BARRIERS TO ADDICTION TREATMENT

A variety of cultural and practical barriers have been attributed to the low rates of treatment utilization by AAPIs (Leong & Lau, 2001; U.S. Department of Health and Human Services, 2001). Practical barriers include lack of transportation, high cost of services, lack of insurance, and unavailability of treatment (U.S. Department of Health and Human Services, 2001). Cultural barriers such as problem recognition, stigma, and lack of credibility of available treatments may also serve as significant obstacles to accessing services (Sue, 1999). Although much of the literature on treatment barriers has been derived from mental health services research with AAPIs, many of the same barriers are likely to apply to substance abuse treatment. A more detailed discussion of areas where cultural disconnects may occur between AAPIs and standard addiction treatment is provided below.

Problem Recognition

Some have posited that AAPIs may not seek substance abuse treatment because of the lack of recognition of problematic substance use (Sakai et al., 2005). Failure to recognize and self-monitor problematic substance use has been attributed to cultural influences on how addiction is defined, cultural attitudes toward alcohol and substance use, and stigma associated with addiction. According to the DSM-IV, substance dependence is defined by symptoms of physiological dependence (i.e., tolerance or withdrawal); loss of control over use; substantial time spent on supporting addiction; interference in social, occupational, or recreational activities; and failure to discontinue use even in light of harmful physical or psychological effects. AAPIs may place greater emphasis on the degree to which substance use impairs one's functioning when defining addiction (James, Kim, & Moore, 1997). For instance, even if physiological signs of substance dependence may be present, AAPIs may not consider such use problematic as long as family obligations such as maintaining employment are met. There is also some evidence that AAPIs may associate alcoholism more with the negative physiological consequences of chronic alcohol use (e.g., liver damage) than with the inability to control one's drinking (Cho & Faulkner, 1993).

Certain cultural normative attitudes about alcohol and substance use may also inhibit recognition of problematic use (Matsuyoshi, 2001). Alcohol is often associated with social gatherings and events within AAPI communities. Offering alcoholic beverages to guests may be considered a gesture of hospitality (Kwon-Ahn, 2001). Among Asian Indians, drinking may be considered a status symbol of one's standing in the community (Sandhu & Malik, 2001). In upper socioeconomic classes of Asian Indians, alcohol is often central to personal and professional interactions. Among Korean males, after-work social gatherings are commonplace where

coworkers may offer one another drinks and refusal of drinks may be seen as impolite (Kwon-Ahn, 2001). Similarly, heavy drinking is often associated with social gatherings among Chinese and Japanese American men (Chi, Kitano, & Lubben, 1988). In such contexts, drunken behavior may be tolerated to a greater extent and recognition of problematic use may be more difficult to identify (Kwon-Ahn, 2001). Among some AAPI groups, alcohol use may be used for medicinal purposes. For instance, Southeast Asians have been reported to view alcohol as possessing healing properties (Makimoto, 1998). Thus, alcohol may not be viewed as a potentially harmful drug, which may obscure recognition of problematic use. Finally, some have posited that the stigma associated with substance abuse in AAPI communities may be so great that individuals may not recognize problematic use out of sheer denial. Denial of substance abuse has been identified as the primary barrier to substance abuse treatment for AAPIs (Ja & Aoki, 1993; Yen, 1992). Many AAPIs may enter treatment involuntarily through the legal system, child protective agencies, physicians, or employer mandates (Amodeo, Robb, Peou, & Tran, 1996).

Stigma

Even on recognition of problematic substance use, AAPIs may still be reluctant to seek treatment because of the stigma associated with addiction and the use of professional mental health services (James et al., 1997). AAPIs may view addiction as a lapse in willpower, moral weakness, or a medical problem (Fong & Tsuang, 2007; Lee, 2000; Lee, Law, & Eo, 2004), which can compromise not only the reputation of the individual involved in problematic use but also incur “loss of face” to the immediate and extended family for subsequent generations (Gong-Guy et al., 1991). Individuals with addictive problems are often seen as overly self-indulgent, nonproductive, and lack “good moral character.” Consequently, AAPIs often make extended efforts to manage the addiction within the family and avoid outside professional help unless absolutely necessary (Ja & Aoki, 1993).

Lack of Credibility of Treatment

Standard treatments, which have been typically developed within a Western cultural framework, may not be viewed as a credible approach to addiction by many AAPIs (Sue, 1999; Sue & Zane, 1989). Lack of familiarity and cultural mismatches with the treatment process and interventions have been cited as factors that may lessen the credibility of existing treatments among AAPIs (Kwon-Ahn, 2001; Sue, 1999). One aspect of treatment that may be unfamiliar and a cause for discomfort for AAPIs is talking about one’s problems particularly with an outside professional (Nguyen, 1982; Yamamoto & Acosta, 1982). Essentially, to many AAPIs, it is unclear how

“talk therapy” can alleviate one’s problem with addiction. Compared to European Americans, AAPIs have been found to be significantly less likely to discuss mental health problems with friends, relatives, physicians, or mental health specialists (Zhang, Snowden, & Sue, 1998). AAPIs may be less likely to talk about personal problems to professionals or even family members because of cultural values that encourage self-reliance or because of stigma. Yet a core feature of most addiction treatments involves discussing problematic substance use and related risk factors. Given the lack of familiarity with addiction treatment, many AAPIs may not understand why talking about one’s problems is an important part of the treatment process. Moreover, treatment often focuses on examining negative thoughts or emotions, which may be directly opposed to culturally normative ways of coping. For instance, when faced with mental health problems, AAPIs have been described as relying on the avoidance of morbid thoughts and the suppression of negative emotions as an appropriate coping method (Bui & Takeuchi, 1992; Butler, Lee, & Gross, 2007; Lam & Zane, 2004; Leong & Lau, 2001; Root, 1985; Sue, 1994).

AAPI perceptions of mental health and addiction problems as a lapse in willpower or self-discipline can also lessen the credibility of existing treatments (Uba, 2003). For instance, AAPIs may believe that increased willpower or determination is all that is needed to overcome addictive behaviors and may not see the relevance of professional treatment. In addition, the perceived credibility of treatments may vary depending on the extent to which treatments align with beliefs about the role of willpower and addictive behaviors. For example, a core principle of Alcoholics Anonymous is acknowledging one’s powerlessness over addiction, which may run counter to AAPI conceptualizations of coping with addiction.

Although many AAPIs may lack familiarity with standard treatments, this does not mean that AAPIs enter treatment devoid of expectations. Studies suggest that AAPIs may expect and be most responsive to treatment that is brief, structured, and directive (Hwang, 2006; Lin & Cheung, 1999). Many AAPIs may enter treatment only as a last resort after their addictions have caused significant impairment (Bui & Takeuchi, 1992; Durvasula & Sue, 1996; Ja & Aoki, 1993; Sakai et al., 2005). The main focus for many AAPIs may be on how to quickly return to previous functioning and on the restoration of roles and responsibilities (Murase & Johnson, 1974). However, the connection between core components of treatment and the resumption of responsibilities may not be readily apparent. For example, the 12 steps in Alcoholics Anonymous have no explicit mention of functional outcomes that may be particularly salient for AAPIs. Similarly, treatment programs that focus on thoughts or emotions associated with addictive behaviors without making explicit the connection to the restoration of roles and responsibilities may fail to garner credibility in the eyes of AAPIs. So a key task at the beginning of treatment involves strate-

gies that provide compelling arguments or evidence that therapy will lead to enhanced functioning in work, education, career, and so forth. Failure to establish the credibility of treatments has been attributed to AAPIs' premature termination of therapy and poor treatment outcomes (Kung, 2004; Zhang et al., 1998). In fact, perceptions of provider credibility has been shown to be the single most important factor associated with intent to utilize mental health services among Chinese students (Akutsu, Lin, & Zane, 1990).

HARM REDUCTION PRINCIPLES WITH AAPIs

Harm reduction possesses certain principles that may offer a useful and compatible approach to addressing addictive behaviors among many AAPIs. The core elements of harm reduction include: (1) a shift from the moral, criminal, and disease models of drug use and addiction to a public health perspective; (2) acceptance of alternative treatment goals other than abstinence; (3) promotion of low-threshold access to services; and (4) adoption of a compassionate pragmatic versus a moralistic idealism stance. A general framework for how harm reduction may fit with the AAPI population is described below followed by a section that discusses specific clinical strategies that can be used with AAPI clients.

The core tenets of harm reduction may provide a viable approach to addressing some of the common barriers to treatment experienced by AAPIs. Given that problem recognition is a barrier to treatment for many AAPIs, a harm reduction approach may be useful for increasing access to treatment. AAPIs who may not readily admit to an addiction problem because of stigma, denial, or cultural conceptualizations of addiction may be amenable to accessing treatment to reduce associated consequences of their addictive behavior. For example, AAPIs may be much more willing to admit to the need to cut down on drinking because of adverse effects on work performance or family life, but may be more reluctant to acknowledge being an alcoholic and feeling powerless (Bui & Takeuchi, 1992; Durvasula & Sue, 1996; Kung, 2004). Similarly, they may be more willing to focus their treatment on occupational functioning rather than on achieving abstinence. Treatments that are based in abstinence-only outcomes may carry the risk of intense shame with any lapses in one's ability to maintain abstinence. In contrast to many abstinence-based addiction programs where entry is conditional upon individuals admitting to an addiction and being abstinent, harm reduction sidesteps the conversation of whether drug use is morally wrong, a disease, or criminal in nature and instead examines how individuals' behaviors have been harmful or helpful. Many AAPIs, who adhere to collectivist cultural heritages, often feel an obligation and responsibility to their family and might therefore find that treatment goals

related to functioning and work are more salient to them. Harm reduction focuses on the consequences of addictive behaviors (e.g., impact on family or work), which may be compatible with the importance placed by AAPIs on functioning, fulfillment of roles and responsibilities, and "saving face" (Bui & Takeuchi, 1992; Durvasula & Sue, 1996; Hwang, 2006; Kung, 2004; Yang, 2007).

A harm reduction approach may also be effective in reducing the stigma and shame some AAPIs face entering and utilizing treatment. Programs that create a low threshold for AAPIs to get "in the door" of an organization may enhance access to treatment for this population. Neighborhood programs that offer multiple services such as translation, immigration, and other social service supports in addition to addiction services may help reduce stigma and shame associated with clinics that only offer mental health or substance use services (Chow, 1999, 2002; Lee, 2000). For example, a client may initially go to a multiservice agency for immigration support and may eventually inquire about addictions treatment after building rapport and credibility for their services. Access to treatment may be easier at these multiservice agencies compared to stand-alone treatment facilities. Often, these multiservice programs are long-standing in communities, offer a variety of services, outreach widely to communities, and are governed by a board of directors (Chow, 2002). Partnering with these types of organizations to offer addiction treatment is consistent with a harm reduction approach because clients are able to utilize services for a continuum of behaviors and treatment goals.

Finally, because the harm reduction approach is pragmatic and focuses on everyday functioning, the chronicity of relapse is viewed compassionately and differently than traditional forms of addiction treatment. Nearly 90% of clients with addictive behaviors do not achieve behavior change with their first attempt (Polivy & Herman, 2002) and about two-thirds of all relapses occur within the first 90 days following treatment (Hunt, Barnett, & Branch, 1971). This reality of addictive disorders can be very discouraging to anyone, but because addictive problems can be especially shameful for many AAPIs (Ho, 1989; Sue & Morishima, 1982), they may be at higher risk of ending treatment prematurely (Lee, 2000). The harm reduction approach may help retain these clients in treatment because it does not confront the client when he or she drinks or uses, but instead focuses on pragmatically reducing the consequences associated with addictive behaviors.

While certain aspects of the harm reduction approach may be culturally congruent with AAPIs, other features of harm reduction may be problematic for these clients. For example, harm reduction may be more acceptable for treating alcohol and gambling than for illegal drugs. Alcohol and gambling are more publicly accepted behaviors compared to more sanctioned illegal drug use. In addition, harm reduction may be perceived

as “encouraging” individuals to engage in addictive behaviors. Moderation can be seen as unwillingness to adopt abstinence, which may be interpreted as a weakness in character or selfishness. In collectivist cultures such as AAPIs and Native Americans, regaining the respect and trust of family and community members is important and may be difficult to achieve without complete abstinence (Daisy, Thomas, & Worley, 1998). Common across all ethnic groups, certain individuals may disagree with the harm reduction approach, while others may find it as a helpful alternative to styles of traditional addiction treatment. Harm reduction could offer a promising approach for AAPIs and more research is needed to evaluate this.

HARM REDUCTION AND RELAPSE MANAGEMENT TECHNIQUES

As discussed above, core features of harm reduction may provide a culturally congruent approach to addictive behaviors with many AAPI clients. The following section offers more specific clinical strategies when conducting harm reduction and addiction treatment in general with these clients. However, as stressed earlier in this chapter, there is great heterogeneity among AAPIs, and clinical strategies should be matched to the needs of the client. While the below domains may be appropriate for many AAPI clients, they are not all-encompassing, and an individualized needs assessment is important before applying the subsequent clinical strategies.

Orienting Clients to Harm Reduction

As reviewed earlier, many AAPIs in substance use treatment are less likely to utilize services, perceive a treatment need, recognize substance-related problems, and are more likely to have more negative attitudes toward treatment (Fong & Tsuang, 2007; Hwang, 2006; Lee, 2000; Lee et al., 2004; Niv et al., 2007; Sakai et al., 2005). As a result, orienting clients to treatment, harm reduction, and relapse management techniques (described below) is important for preventing premature treatment termination. As part of orienting, counselors can educate clients about the importance of open communication with the counselor and how such communication is integral to developing an effective treatment plan. It may be important to acknowledge, anticipate, and normalize any discomfort that clients might feel when asked to provide open feedback to the counselor about the treatment experience. Individuals from collectivistic cultural backgrounds that highly value harmony with others may view open expressions of dissatisfaction or disagreement as disrespectful. The below section describes additional methods for orienting clients to harm reduction aimed to effectively educate and engage the client in treatment.

Assessing Treatment Expectations

Clients often enter treatment with preconceived notions influenced by myriad factors including previous experiences, cultural upbringing, the media, and word of mouth. Some research suggests that AAPI clients respond better to more hierarchical, directive, and structured therapies (Hwang, 2006; Lin & Cheung, 1999). In fact, as described earlier, a common barrier to seeking treatment is the lack of credibility for traditional talk therapy programs. During the first session, the counselor should refrain from asking too many personal questions because of the stigma associated with seeking treatment and the discomfort of discussing personal issues with “outsiders” (Hwang, 2006; Sue, 1999).

To build credibility, counselors may first talk about their own credentials, the degree of experience they have had with treatment success, and then provide a rationale for assessing the client’s expectations. AAPI clients commonly enter treatment expecting to receive more “answers” than “questions” (Hwang, 2006). For example, the counselor might state that in order to work together successfully and productively, he or she might ask some questions in the same way a doctor would ask questions about a patient’s medical symptoms. The counselor might also state that the origin of questions is based on collecting more information, that he or she asks the same questions of all clients in order to understand what treatment recommendations to make, and that the origin of the questioning is not to judge or devalue the client. Normalizing the process by providing a rationale may help these clients feel less shame and stigma, especially with clients new to the treatment process (Lee, 2000).

After building a rationale for assessing the client, the counselor may then ask a few questions related to what they know about treatment, what types of topics would be most useful to discuss, and how they foresee treatment sessions to be like. The counselor can then educate the client in areas where there are discrepant treatment beliefs. For example, if clients perceive that treatment will not be useful to them because it will not help them get back to work, the counselor may discuss treatment options that incorporate occupational functioning. Finally, during this assessment, it is important that the client has the opportunity to ask the counselor questions about the treatment process. Through the client’s questions, the counselor should continue to be attentive to prevalent treatment expectations (e.g., How will I get back to work?). Setting realistic treatment expectations with the client is important in preventing premature treatment dropout (Sue, 1999). Counselors should follow up this assessment with questions about the client’s understanding (e.g., How does what we discussed fit with your understanding of treatment?). As stated earlier, some AAPI clients may be reluctant to express disagreement, and part of the orienting process should normalize open communication with the counselor. Cognitive match, or

the degree to which the client's worldview and the counselor's conceptual model match, has been linked to greater therapeutic alliance (Sue, 1999; Sue & Zane, 1989) and influence of initial treatment responses (Zane et al., 2005). Therefore, assessing the extent of congruence between the client's and the counselor's understanding of treatment in the early stages of treatment is helpful.

Establishing Treatment Goals

An important aspect toward orienting clients to therapy is to understand the client's treatment goals. Assessing how the client defines treatment "success" is very important. Identifying incremental and achievable goals with AAPI clients, in particular, is important. "Gift giving," or helping the client achieve success early in treatment, has been underscored as important (Hwang, 2006; Sue & Zane, 1989). While the counselor may view reduced substance use or abstinence as the ultimate goal, AAPI clients may associate treatment effectiveness with improved roles/functioning. As an example, one of the authors referred an Asian American student to the student counseling center for drinking problems, and when asked how counseling was going, he replied that he had dropped out because counseling was not helping his academic grades improve. Connecting improved functioning to the treatment of substance use is very important in orienting AAPI clients.

AAPIs may be more responsive to treatment if they see how treatment will help them achieve goals that are important to them. Consistent with harm reduction, establishing the client's goals in treatment means to identify the consequences their substance use behaviors are having on their family, job, relationships, social functioning, and health (Sue, 1999). Clients may not readily state abstinence as a goal, for example, but may be more likely to state that obtaining a job or financial assistance is important to them. Once the functional goals are identified, the impairment resulting from substance use can be integrated into their treatment plan. The counselor and client may work on small, incremental goals that the client finds valuable to structure the client's treatment plan and problem-solve how substances may interfere with achieving each goal. As stated earlier, allowing AAPI clients to experience treatment gains early in treatment may enhance credibility of the treatment and prevent premature termination. Using the college student's example, incremental goals might be to carve out 2 hours in the evening twice a week to read a chapter in his textbook. After establishing that goal, the counselor and client might problem-solve barriers that might get in the way of achieving that goal, and may discover that drinking in the evening often impairs the student's concentration. As a result, the client may include another goal of not drinking until after his reading time or not drinking on the 2 days when he wants to accomplish his goals. Concordant with a harm reduction philosophy, the counselor

and client work to reduce the substance-related consequences that interfere with the client's functioning.

A common barrier AAPI clients experience when establishing treatment goals is the conflict between their personal goals and the goals of their family. Because in many AAPI cultures a greater emphasis is often placed on the welfare of the family than the individual, it is also important to assess whether the client's treatment goals stem from the client or his/her family, and what impact that might have on the client's treatment motivation. Family members may play a supportive role in treatment, while others may act as a barrier toward the individual improving. Assessing parental support, rejection, and the family's role in the individual's addictive behaviors may provide insights to forming the client's treatment goals (Rastogi & Wadhwa, 2006). AAPIs have been shown to be motivated by more collectivistic than individualistic influences (Lee, 2000; Markus, Kitayama, & VandenBos, 1996; Uba, 2003). Proper assessment of familial pressures and the effects of these pressures on the client's treatment motivation are important to understand. In some situations, the pressure to regain face in their family may motivate the client to reduce addiction consequences, while in other situations this pressure may perpetuate the client's addiction.

Providing a Treatment Rationale

For any intervention, providing a treatment rationale by giving clients information about the process and requirements of treatment is important for enhancing therapeutic alliance and engagement (Acosta, Yamamoto, Evans, & Skilbeck, 1983). For AAPI clients in particular, providing a treatment rationale is important because therapy and treatment may be more stigmatizing and less familiar to them (Hwang, 2006). Among immigrant populations, seeking therapy may be seen as a sign of weakness and a lack of resiliency to solve their own problems, and providing a treatment rationale may help save face and reduce stigma early in treatment (Hwang, 2006).

The treatment rationale involves providing information on why harm reduction works, how it works, and what steps are required in order for it to work. The counselor may take an expert stance in describing the rationale to build credibility for the counselor and the therapeutic process. For example, a counselor might describe why harm reduction works (Marlatt, 1998) and the research supporting the approach (Marlatt & Witkiewitz, 2002). The counselor may then provide an example of how harm reduction can specifically help the client's presenting concerns (e.g., "You state that returning to work is very important to you. We can use harm reduction to reduce the consequences that get in the way of you finding work and being productive"). The counselor may then summarize the research on harm reduction by saying that the approach has been widely used for about the past 30 years and has been shown to be as effective as abstinence-oriented

approaches (Marlatt & Witkiewitz, 2002; Larimer et al., Chapter 3, this volume). Harm reduction is commonly used with adolescent and college student populations because moderation in drinking and a reduction in drinking consequences are more realistic goals than abstinence (Baer, Kivlahan, Blume, McKnight, & Marlatt, 2001; Dimeff, Baer, Kivlahan, & Marlatt, 1999; Marlatt et al., 1998). Describing how and why harm reduction works involves describing the principles and research supporting the approach, which can increase its perceived credibility.

The most efficient way to concretely describe how harm reduction works in substance use treatment might be to use the relapse prevention framework (see Figure 11.1). Relapse prevention therapy consists of cognitive-behavioral self-management and lifestyle balance techniques to prevent initial lapses and full-blown relapses from occurring (Marlatt & Gordon, 1985). However, as described below, relapse prevention therapy is abstinence focused and therefore differs from the consequence focus of harm reduction. Counselors might describe the relapse prevention framework in the context of the client's example and may find it helpful to illustrate Figure 11.1 during the conversation. For example, the counselor might restate the last time the client had an argument with his wife (high-risk situation), how he withdrew, isolated, and blamed himself for the fight (ineffective coping responses), felt he was a bad husband and wanted to drink to take the shame/guilt away (decreased self-efficacy and positive outcome expectancies), had one drink to numb the shame, felt he failed as a husband by drinking and that he should continue to drink to erase the pain (abstinence violation effect and perceived effects of substance), and continued drinking heavily for a week (increased probability of relapse). Referring back to the diagram, the counselor might describe that therapy will teach the client how to intervene in each stage of the diagram (e.g., what to do when in an argument or when he feels that he is a bad husband). By describing the process of relapse and drinking in the context of roles/responsibilities (e.g., being a good husband), the AAPI client begins to conceptualize how treatment might help him.

Finally, the counselor describes what is required for the harm reduction approach to work. This is an opportunity to get specific with the AAPI client so that he or she understands his or her role in therapy. The counselor might describe the logistics of counseling (e.g., frequency, cost, length, and duration). Some have stated that a strength of the AAPIs' culture is the willingness to persevere, tolerate, and be patient during challenging situations (Lee, 2000). In Japanese, this concept is called *gaman*, or the endurance of pain in uncomfortable situations. Counselors may capitalize on this tendency by indicating that treatment can be hard work but that, as they know, hard work often leads to great benefits. Moreover, part of this hard work may involve doing things that they find unfamiliar and uncomfortable such as discussing their feelings and focusing on negative

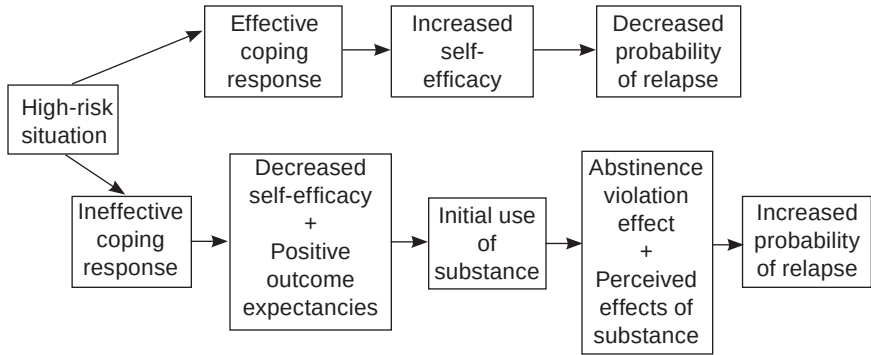


FIGURE 11.1. A cognitive-behavioral model of the relapse process. From Witkiewitz and Marlatt (2004). Copyright 2004 by the American Psychological Association. Reprinted by permission. This figure illustrates a linear version of the relapse process and is included here to facilitate discussion with clients more easily. A more recent and dynamic model incorporating proximal and distal factors has been recently suggested (see Witkiewitz & Marlatt, 2004).

emotions and thoughts. However, analyzing the client's thoughts and feelings is essential to learning how they are connected with the consequences related to their client's presenting problem (e.g., cognitive-behavioral therapy; Beck, Wright, Newman, & Liese, 1993). The counselor can normalize the experience of discomfort by stating that AAPIs often feel nervous and anxious about the therapeutic process, but that this feeling decreases over time. The counselor may also discuss client or counselor behaviors that may interfere with therapy and compromise treatment success (e.g., missing appointments, early dropout, counselor pushing too hard) (Linehan 1993a). Finally, the counselor can provide hope for the client to persevere even when treatment and life situations are challenging, offer hope that together they can work toward reducing the consequences that are challenging the client's life, and that treatment can be useful in helping them reassume important roles in their lives.

Relapse Management Techniques

Relapse prevention techniques are tailored to specific stages of development in the relapse process (e.g., high-risk situation, no coping response, decreased self-efficacy). Elements of relapse prevention may be culturally adapted to AAPI clients (Blume & García de la Cruz, 2005). Because of the abstinence focus of relapse prevention, relapse management is used to describe relapse prevention techniques used under a harm reduction framework (Laws, 1996; Stoner & George, 2000). In this case, relapse management provides techniques to manage the harm caused by relapse instead of

preventing specific stages of relapse, which may be more culturally compatible compared to other mainstream therapies (Blume, Anderson, Fader, & Marlatt, 2001). This distinction may be particularly important for AAPI clients who use the role of functioning to measure whether their behaviors are problematic (e.g., arriving late to work or not fulfilling family obligations because of drinking) (James et al., 1997). In this next section, several relapse management techniques are proposed that may be used with AAPI clients. We use the same stages of relapse categories described in relapse prevention (see Figure 11.1), but adapt them to a harm reduction framework and for AAPIs.

Identifying High-Risk Consequences

High-risk consequences from addictive behaviors could be described as situations that perpetuate harmful problems and impairment. For example, a high-risk consequence from drinking might be to arrive late to work, which may cause decreased productivity, coworker conflict, or injury. In harm reduction, techniques could include drinking earlier the previous day so that the individual could fall asleep earlier, drinking less a few hours before bed, scheduling a carpool to work for more accountability, or establishing stronger behavioral cues in order to wake up more punctually. For AAPI individuals, common high-risk consequences may involve relationship (family, social, intergenerational, romantic), occupation (academic, employment, unemployment), reputation (loss of face and shame), financial, discrimination, and legal situations.

The importance of a thorough and accurate assessment of high-risk situations has been emphasized throughout several therapies as the cornerstone to good treatment (Linehan, 1993a). Detailed assessment is especially important with AAPIs. Some research suggests that AAPIs tend to suppress strong negative emotions because morbid thinking is seen as maladaptive (James et al., 1997), are less likely to self-monitor, and have less emotional expression compared to whites (Uba, 2003), which may hinder psychological help-seeking (Komiya, Good, & Sherrod, 2000). Furthermore, talking about their consequences may perpetuate shame and guilt, and should be conducted collaboratively and delicately.

To begin increasing the client's ability to self-monitor, exercises building biological awareness and emotion labeling may be helpful. In these biofeedback exercises, counselors teach clients to notice their bodily sensations (e.g., the aches in their neck or shoulders) throughout the day and especially during times of stress, and to use these signals to improve their health (e.g., University of Pittsburgh Medical Center, 2008). Clients learn to notice when they are tense or anxious and intervene if they are linked with high-risk consequences. For addiction treatment, targeting somatic symptoms or the negative physical symptoms of substance abuse (e.g., headaches, sleep-

ing problems, memory problems) may provide AAPIs with a sense of the usefulness of treatment while lessening some of the stigma associated with addiction (Kwon-Ahn, 2001; Sandhu & Malik, 2001). Other exercises can focus on emotion labeling, where clients learn to name and identify their emotions. These exercises can be conducted after clients learn biofeedback. For example, clients can learn to label bodily sensations with emotions such as stressed, angry, tense, uncomfortable, or disappointed. Counselors teach clients to become more aware and less judgmental of self-monitoring.

To do a thorough assessment with a client, a counselor might need to assess a client's high-risk consequences using a downward arrow or chaining technique. For example, a client may state that he isolates after drinking and with further query the client may disclose that he isolates because he gets moody and the highest risk consequences for him are the verbal fights he has with his wife. It is really important to him to be a good husband for his wife, but he finds a way to argue with her after he drinks. By asking questions such as "What happens after you isolate? How does that affect you?" the client becomes more specific about the more meaningful harm the behaviors cause. The counselor needs to be attentive to levels of shame the client may be experiencing when recounting the details of high-risk situations and associated consequences. It may be important to check in with and to continue to orient the client to the purpose of the exercise and how it relates to accomplishing treatment goals. After assessing, the counselor could orient the client to form treatment goals to reduce these consequences. For this client, the treatment goal of fighting less with his wife may be paired with learning to communicate with his wife when he is not drinking, drinking less or none at all when she is home, or working with the couple to explore issues that they fight about. These techniques, which are very role specific, tailor the consequences the client identifies to specific treatment goals.

Developing Effective Coping

Coping refers to methods an individual uses to respond to a stressful situation, and effective coping implies techniques the individual uses successfully to obtain stress relief. AAPI individuals exhibit heterogeneity in their coping skills and what is considered effective coping. It is important to be knowledgeable of coping patterns that may be more salient among AAPI clients. For example, there is some tendency among AAPI clients to avoid negative thoughts or emotions (Bui & Takeuchi, 1992; Lam & Zane, 2004; Leong & Lau, 2001; Root, 1985), and restraining these emotions is seen as a sign of maturity (Sue, 1999). There have been some studies showing that AAPI individuals tend to habituate much more quickly after being startled compared to whites (Moy Shum, 1996), which suggests that they may not linger as long with emotional upsets than others would. AAPI individu-

als also tend to change their attitudes about a situation when coping with interpersonal stress, as compared to whites, who in general change their environments first (Markus & Kitayama, 1991). Therefore, AAPI clients can cope effectively by avoiding or habituating to emotions within a short period. The counselor should assess how effective the client's coping skills are for resolving consequences related to addictive behaviors and supplement their repertoire with additional skills as needed.

Techniques that might be helpful in coping effectively may include structured exercises such as emotion regulation, problem solving, and interpersonal skills training. Counselors may need to orient and teach clients how to identify and monitor their emotions if useful to the client's presenting problem, explaining that being mindful of emotions may be counterintuitive to them, but has been shown to help prevent future upsets (e.g., recognizing and intervening early signs of anger to prevent arguments with his wife). Clients may also need to problem-solve difficult situations. For example, the client mentioned above may need to problem-solve how not to isolate after arguments with his wife. Strategies may include listening or communication skills (Daley & Marlatt, 2006; Linehan, 1993b). Similar to AAPI clients, interpersonal conflict is widespread among all ethnic groups, and more coping in relationships may be important.

Increasing Self-Efficacy

Self-efficacy theory states that individuals vary in their level of confidence to resist drinking in risky situations, and those individuals with higher levels of self-efficacy are at reduced risk of engaging in harmful behaviors (Bandura, 1997). Counselors can highlight the client's positive coping strategies in high-risk situations and help identify the client's helpful tools for coping with difficult life circumstances to increase self-efficacy. Increased self-efficacy can often be misconstrued as high self-esteem, and the difference is important to distinguish with AAPI clients. In some collectivistic/Asian cultures, humility is highly valued, and highlighting one's own accomplishments may be less culturally compatible. Having higher self-esteem can therefore be counterintuitive. Therefore, self-efficacy could be reframed as enhancing the client's ability for self-control or increasing personal will power. For example, with the aforementioned client, the language of self-efficacy might be framed as having the skills to fight less with his wife instead of doing a good job of fighting less with her.

AAPI clients that are collectivists may place more weight on interdependence or collective efficacy (Bandura, 2000; Earley, Gibson, & Chen, 1999), where focus is placed on the "family" self instead of the "I" self (James et al., 1997; Sue, 1999). Thus, the consequences of an individual's addictive problems may affect not only the individual but also the family.

The counselor can phrase self-efficacy in the context of the client's role in the family and community (e.g., being a role model in their family and to local Chinese Americans).

Understanding Outcome Expectancies

Similar to how expectancies are addressed in relapse prevention, understanding the client's expectations for addictive behavior may help address barriers that may perpetuate harm. AAPI individuals tend to suppress negative emotions (Butler et al., 2007), so that they may be more likely to use substances to self-medicate their emotions (Amodeo et al., 1996; Nagoshi, Nakata, Sasano, & Wood, 1994). Individuals, for example, may self-medicate to minimize the aversive symptoms associated with depression, social anxiety, or posttraumatic stress disorder (Bromley & Sip, 2001). This tendency to use substances for self-medication may be especially problematic and can be a focal point of relapse management for clients. For example, if the client discussed above has positive expectations that drinking when his wife is around helps him feel less depressed or more social when she is present, a helpful strategy may be to educate the client about the depressive effects of alcohol or the placebo effects often experienced when drinking (e.g., biphasic response of alcohol or the balanced placebo experiments) (Dimeff et al., 1999). Clients may also feel social pressures to use and may overestimate their peers' use of substances. In this case, normative feedback or providing statistics about how their use compares to others in the United States may also be an effective technique. For example, a counselor might say to the client that "compared to men your age, your percentile ranking is 87%, which suggests you drink more than 87% of men your age" (Chan, Neighbors, Gilson, Larimer, & Marlatt, 2007). Providing pragmatic education around how the client's use compares to norms found in research may help increase the credibility of the counselor's feedback and create dissonance between the client's current behaviors and values.

The Abstinence Violation Effect

Similar to the abstinence violation effect (AVE) used in relapse prevention, the AVE in harm reduction could be conceptualized as maladaptive thoughts and negative emotions associated with relapse-related consequences. Our client may experience the AVE after having a drink and a subsequent argument with his wife. Experiencing the AVE for him as a result of drinking may involve thoughts such as "I am a failure to my family, my relationship with my wife is never going to improve, and all this work I gained from not drinking was for nothing." The negative emotions he might feel are shame, guilt, and disappointment. The danger of the AVE occurring is early treatment dropout, decreased motivation, and increase in harmful behaviors

(Marlatt & Gordon, 1985). In AAPI communities, shame and loss of face are prevalent emotions that may perpetuate risky behaviors. Loss of face refers to losing one's social integrity. Individuals tend to blame themselves for any "failures" (James et al., 1997; Nguyen, 1982) and conceptualize failures as a loss of face to themselves and their social networks (Hwang, 2006; Lee, 2000; Lee et al., 2007; Uba, 2003). In this context, the experience of shame and face loss should be extensively explored with the client so the emotional distress associated with these states can be used as important cues that the client may be vulnerable to AVE in that situation. In this way, many AAPI clients can develop skills to anticipate the AVE and thus avoid early treatment termination. When clients experience the AVE, counselors might reiterate the therapy rationale, normalize the relapse process, and instill hope that the client can continue to persevere through challenging situations. Interventions may include cognitive restructuring (Beck et al., 1993) or correcting dysfunctional thoughts that foster maladaptive coping, shame, and guilt. Clients often can relate to experiencing the AVE in the past and may problem-solve with counselors how to cope effectively if the client slips in treatment, and may additionally troubleshoot incremental behavioral goals the client can make more in the short term to regain self-efficacy and treatment success.

CONCLUSION

In this chapter, we highlighted the increasing rates of addictive behaviors among subgroups of AAPIs, discussed the barriers and cultural factors that may contribute to lower treatment utilization among AAPIs, and provided a framework for how harm reduction and corresponding relapse management techniques may be used among this clientele. Emerging evidence suggests that addictive behaviors may be a growing problem among AAPIs, and there is currently little research known about the effectiveness of existing addiction treatment approaches. Harm reduction is gaining increasing recognition as a promising approach, and certain aspects of this approach may be culturally compatible with the values, coping orientations, and treatment expectations of AAPI clients. Specifically, the focus on consequences and psychosocial functioning, the shift from shame-based to acceptance models of addiction and the low-threshold access into care may be especially helpful to AAPI individuals with addiction problems. By framing treatment as a method of improving clients' roles and responsibilities, treatment may be perceived as more useful and pragmatic. Harm reduction may provide a more acceptable alternative to traditional abstinence-based treatments for AAPIs, given its focus on reducing the negative consequences associated with addictive behaviors. Harm reduction is a promising approach that warrants further study with AAPI populations.

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CHAPTER 12



Adolescent Alcohol-Related Harm Reduction

Realities, Innovations, and Challenges

ADRIAN KELLY

The overall aim of this chapter is to examine the case for harm reduction among adolescents, to describe promising lines of evidence for the utility of harm reduction approaches to prevention, as well as describe some of the challenges that proponents of harm reduction strategies face when working with adolescent populations. For the purposes of this chapter, harm reduction strategies are defined as those that focus on reducing the likelihood of harm without necessarily requiring changes in the pattern or level of alcohol use (Stockwell, 2006). Such strategies have been argued to be conceptually distinct from *demand reduction* strategies (those that succeed by motivating adolescents to consume less alcohol, e.g., abstinence-oriented prevention), and *supply reduction* strategies (those that reduce the physical availability of alcohol, e.g., laws against furnishing minors with alcohol) (Stockwell, 2006). In reality, the evidence base for alcohol-related harm reduction strategies for adolescents is emergent, and much research bridges the above distinctions. In the interests of gleanings as much as we can from the available evidence, the latter section includes strategies whose objectives are to reduce both harm and demand.

Harm reduction strategies, especially for adolescents, have been controversial. Because many of the challenges for harm reduction relate to the neutral stance on abstinence versus concerns about adolescent competencies to regulate drinking and its outcomes (Poulin, 2006), this chapter is oriented toward young people under 18 years of age. Under-18s are considered minors in the United States, the United Kingdom, and Australia, and over-18s are often relatively autonomous in terms of living arrangements, sexual behavior, driving, and so on. In the first section, the realities of adolescent drinking and associated implications for harm reduction are presented. In the second section, promising strategies for reducing alcohol-related harm are reviewed, and the strengths, limitations, and challenges of these strategies are reviewed.

THE REALITIES OF ADOLESCENT DRINKING

The Majority of Adolescents “Say Yes” to Alcohol

It is clear that a substantial proportion of adolescents in Western countries have at least some personal experience of consuming alcohol. In the United States, nationally representative samples of some 43,700 students indicate that 47% of teenagers have consumed alcohol by eighth grade, and 78% of 12th graders have done so (Johnston, O’Malley, & Bachman, 2003). The proportions of 8th, 10th, and 12th graders who reported drinking in the 30 days prior to survey were 20%, 35%, and 49% respectively. In Canada, telephone surveys of 581 15–17-year-olds (Adlaf, Begin, & Sawka, 2005) found that 76.8% had consumed alcohol. In Australia, a national survey of 21,805 high school students (Australian Government Department of Health and Ageing [ADHA], 2005) found that by the age of 14, around 86% of students had tried alcohol, and by age 17, 70% of students had consumed alcohol in the month prior to the survey. The proportion of students drinking in the prior week prior was 10% for 12-year-olds through to 49% for 17-year-olds. A study using a stratified sample of 9,782 adolescents in the United Kingdom found that regular monthly use of alcohol rose from 5.1% at age 11 to 36% at age 16 (Sutherland & Shepherd, 2001). Surveys across several countries indicate that the majority of adolescents have consumed alcohol, and a substantial proportion of middle adolescents (around 16 years of age) are recent (presumed regular) drinkers.

These survey findings indicate that consumption of alcohol (more than a few sips) by adolescents is statistically normative. Particularly for older adolescents, these findings also point to an overwhelmingly strong culture of drinking endorsement, and suggest that relatively few older adolescents have abstentionist views on alcohol. From a harm reduction stance, these data yield little further enlightenment, because they provide no clear index of harm.

A Large Proportion of Adolescents “Say Yes” to Heavy Drinking

Relative to lifetime and point prevalence data on alcohol consumption, “binge drinking” (five or more drinks on at least one occasion in the previous 2 weeks; Johnston et al., 2003) has increased value as an index of alcohol-related harm. In part, this is because binge drinking is associated with a range of undesirable outcomes (see Masterman & Kelly, 2003). In the United States, 12.4%, 22.4%, and 28.6% of 8th, 10th, and 12th graders reported binge drinking as defined above. Around 20% of 12th graders report more than one episode of heavy drinking in the previous 2 weeks (Johnston, O’Malley, & Bachman, 2002). A survey of 13–16-year-old students undertaken in the United Kingdom indicated that 40% of males and 32% of females reported having consumed at least 11 units of alcohol on their last drinking occasion (Anderson & Plant, 1996). The Australian School Student Alcohol and Drug (ASSAD) survey (ADHA, 2005) found that of current drinkers, 30% of 15-year-olds and 44% of 17-year-olds had, in the last week, engaged in heavy drinking (defined in this survey as seven or more drinks in one day for males and five or more drinks in one day for females). Overall, around 22–30% of middle high school students in Western countries engage in binge drinking, and the proportion of binge drinking among adolescents increases roughly 5% per year throughout the high school years.

Because adolescent heavy drinking is commonly episodic (e.g., weekend parties; Gutierrez, Molof, & Ungerleider, 1994), averaged indices of heavy drinking such as those above may obscure important, more extreme drinking events. For example, “Schoolies week,” an Australian tradition of mass annual gatherings of high school graduates at beachside holiday resorts, is a cultural phenomenon that provides fertile ground for illustrating context-specific rates of binge drinking. A similar phenomenon to the North American “spring break,” Schoolies is held in several places around Australia, with perhaps the most well known occurring in Surfers Paradise, Gold Coast, Australia. Between 35,000 and 50,000 teenagers now descend on this Australian holiday city each year. Around 90% of teenage attendees consume alcohol during this week, and 51–61% report intoxication during the week (Zinkiwicz, Davey, & Curd, 1999).

ADOLESCENTS ARE VULNERABLE TO A RANGE OF ALCOHOL-RELATED PROBLEMS

Binge drinking is most commonly associated with a range of unsafe behaviours (Masterman & Kelly, 2003). Alcohol-related injuries and crashes are the leading cause of death among U.S. adolescents and young adults (Hingson, Heeren, Zakocs, Kopstein, & Wechsler, 2002). An early study of 1,992 Australian students with an average age of 14.9 years showed that

15% of males and 5% of females had driven a motor vehicle after drinking (Sheehan & Nucifora, 1990). Among Canadian high school students with valid driver's licences, 37.5% of males and 19.3% of females reported driving soon after drinking (Stoduto & Adlaf, 2001). Heavy episodic drinking also raises the risk of unprotected sex (Cooper, Peirce, & Huselid, 1994), tobacco use (Kelly & Jackson-Carroll, 2007), and sexual assault (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2001). Drinking in public locations is associated with aggression and fights among adolescent males and females (Wells, Graham, Speechley, & Koval, 2005).

Binge drinking is known to have a range of direct and toxic effects on the body, particularly for adolescents. For example, because adolescents commonly have limited experience with alcohol and are less sensitive to alcohol-induced sedation and motor impairment (White et al., 2002), complications associated with ethanol poisoning are also common in adolescents (Greenfield, 2001). The adolescent brain may be uniquely sensitive to the neurotoxic effects of ethanol because major changes in brain structure and function occur during this developmental period (Hiller-Sturmhöfel & Swartzwelder, 2004–2005). Adolescent animals are more sensitive than adults to ethanol-induced learning and memory impairments (White et al., 2002), and this sensitivity is evident at high rather than low doses. Alcohol exposure during adolescence can have long-lasting effects and may interfere with normal brain functioning during adulthood.

Because a substantial number of adolescents engage in heavy drinking, at least occasionally, it follows that a substantial number of adolescents are exposed to critical events that have long-standing health implications. If we tie data to specific events commonly associated with adolescent drinking, the rates are even more concerning. Again using Schoolies as an example, the prevalence of risky/harmful alcohol-related events occurring in one week approaches lifetime prevalence rates in population surveys. Notably, 5–9% of adolescent attendees report riding in a car with an intoxicated driver, 10–14% reporting being injured, 5–16% coming to the attention of police, 12% of females reporting sexual harassment, and casual sex occurs for 40–60% of sexually active teenagers during Schoolies (variation due to gender; Maticka-Tyndale, Herold, & Oppermann, 2003; Zinkiewicz, Davey, & Curd, 1999). From a harm reduction perspective, management of teenager-dominated events like this warrant special attention, because they frequently involve a spike in health and safety risks with potentially long-standing consequences.

A Substantial Proportion of Parents “Say Yes” to Adolescent Drinking

Harm reduction is a common rationale for parents' provision of alcohol to their adolescents. Inherent in many such strategies is a humanitarian

orientation, where adolescents are trusted to make good decisions and act responsibly. By providing limited alcohol in a controlled setting (e.g., home or private party), it is argued that adolescents can learn about responsible drinking, or are in a safe environment if they do drink excessively. In Australia, the great majority of parents (83.5%) of 17–18-year-olds allow their adolescents to drink at home, and parents most commonly report allowing drinking at home from 16–17 years of age (Hayes, Smart, Toumbourou, & Sanson, 2004). Parents are the most common source of alcohol among Australian students who drink, with 37–38% of adolescents reporting that their parents gave them their last drink (ADHA, 2005). In the United States, the proportion of parents who furnish adolescents with alcohol seems comparable to Australia. A Washington, D.C., telephone survey (Beck, Scaffa, Swift, & Ko, 1995) found that about two-thirds of high school students report that their parents strongly disapproved of underage drinking and would impose severe punishments and restrictions as a means of enforcing this disapproval. About 35% of students reported that their parents held more lenient attitudes and allowed them to drink under certain circumstances.

A commonly expressed view on harm reduction is that it is excessively permissive for parents to provide their adolescents with alcohol, because it may increase the risk of alcohol abuse. Consistent with this view, greater parental disapproval is associated with less involvement with friends and peers who use alcohol, less peer influence to use alcohol, greater self-efficacy for avoiding alcohol use, and lower subsequent alcohol use and related problems (Nash, McQueen, & Bray, 2005). However, it seems likely that the relationships between parental disapproval and adolescent alcohol consumption are multivariate and complex. Beck, Boyle, and Boekeloo (2003) found that these two factors were negatively related when the father's opinion was important to the adolescent. Of course, parents' opinions are sometimes less important to the adolescent than we hope. Parent–adolescent relationship quality may be a necessary foundation on which parental disapproval has a protective effect on adolescent drinking (Dishion & McMahon, 1988). Consistent with this, high-quality parent–adolescent relationships are associated with lower adolescent drinking, and family relationship difficulties longitudinally predict increased alcohol use (Kelly, O'Flaherty, et al., 2011), although other studies find added complexities associated with moderating variables such as adolescent gender differences and adolescent temperament (e.g., Neighbors, Clark, Donovan, & Brody, 2000; Kelly, Toumbourou, et al., 2011), and the proximity of effects. For example, parent–adolescent relationship quality may exert its influence on adolescent alcohol use indirectly, through its impact on deviant peer associations (e.g., Ary, Duncan, Duncan, & Hops, 1999; see Hayes et al., 2004, for review).

In reality, some adolescents whose parents forbid drinking may simply acquire alcohol from other sources, and in this scenario, alcohol abuse may be more likely. Two findings from the ASSAD survey (ADHA, 2005) support this possibility. First, the ASSAD survey results found that it was more likely that parents would provide alcohol to younger rather than older students. Specifically, 42% of 12–15-year-olds reported that their parents had furnished them with alcohol, compared to 32% of 16–17-year-olds. This apparently paradoxical finding might be because older students acquire their alcohol from other sources (e.g., older friends). Second, adolescents were found to drink significantly less alcohol when they obtained it from parents compared to when they obtained it from others. Specifically, when 12–15-year-olds obtained alcohol from their parents they consumed 3.6 drinks per week, compared with 4.9 drinks if alcohol was obtained from a friend. When 12–15-year-old adolescents obtained alcohol from someone other than a parent or friend, they consumed 7.6 drinks per week. It was also evident that students consumed less alcohol at home (3.4 drinks per week) compared to a party or friend's house (6.3–6.4 drinks per week). For some adolescents, parental provision of alcohol may provide an element of control that reduces the likelihood of heavier drinking.

This is a clearly a controversial view, particularly given the potential illegality of providing minors with alcohol in some jurisdictions/countries. In the United States, federal legislation provides for a minimum legal drinking age, in which the sale of alcohol to a minor (person under age 21), and possession by a minor, is illegal (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2006), and state access to federal funding is tied to consistency with this federal legislation. Some states, with specific exceptions, prohibit adults from furnishing alcoholic beverages to minors. This may include adult hosts of gatherings where alcohol consumption occurs or alcohol is supplied. In some states exceptions are made if alcohol is provided by a parent/guardian or spouse. In Australia, New Zealand, and the United Kingdom, as well as many other European countries, it is not illegal for minors to consume alcohol or for adults to supply alcohol, subject to location and licensing restrictions (Kypri, Dean, & Stojanovski, 2007). However, civil liability may be incurred if alcohol-related injuries occur during parties on private property. In jurisdictions where provision of alcohol to minors is not illegal, parents may choose to accept the risk of alcohol-related injury among adolescents in their care, in preference to the potentially greater risk of alcohol-related injury in other settings.

While some parents may have the view that providing alcohol reduces the risk of alcohol-related harm, it is clear that a substantial number of parents do this rather naively. Data from the Australian Temperament Survey (cited in Hayes et al., 2004) found that substantial proportions of parents show low levels of worry about their adolescents' drinking, even when the

adolescents' drinking is very high (15–30 days per month). Specifically, for adolescents with high/very high patterns of alcohol use, only 4.8–8.0% of parents reported a lot of worry about their adolescents' drinking, and 42–48% of parents reported no worry about their adolescents' drinking. It may be the case that some parents might be more concerned about their adolescent's alcohol involvement if they more closely monitored their adolescents. While some parents show high levels of concern about adolescent alcohol involvement, it is clear that some adolescents might be better served by increased concern by parents, at least when concerns are manifested in management of health and safety risks.

Are Adolescents Competent to Minimize Alcohol-Related Harm?

Poulin (2006) aptly summarizes a common worry related to alcohol-related HR to youth: To what degree are young people capable of making wise decisions sufficient to reduce alcohol-related harm? Adolescents clearly vary in maturity and competence, and defining these terms is beyond the scope of this chapter. From a legal perspective, minimum drinking ages are set (at various levels) presumably to reflect the capacity of adolescents, on average, to make informed decisions about alcohol consumption. It is clear that a proportion of adolescents engage in heavy drinking when they have underdeveloped capacity to make informed decisions about alcohol-related risk. Given this, can minors learn about and implement alcohol-related harm reduction strategies? Outcomes from an Australian school-based HR program (McBride, Midford, Farrington, & Phillips, 2000) suggest that they can. When HR messages are evaluated using interactive learning centered on realistic scenarios, adolescents reduce the risk of alcohol-related harm relative to students receiving alcohol education only, and these reduced risks are maintained 32 months later. It was also found that unsupervised teenage drinkers moderated risky drinking in response to the program (McBride, Farrington, Midford, & Meuteners, 2003). Maisto, Martin, Pollock, Cornelius, and Chung (2002) examined nonproblem-drinking outcomes in adolescents (ages 14–18 years) treated for alcohol use disorders. At 1-year follow-up, 23% of participants were classified as nonproblem drinkers and 17% as abstainers, and there was no statistically significant difference between abstainers and nonproblem drinkers in psychosocial functioning. These results suggest that even adolescents with significant alcohol problems can regulate their own drinking, and that adolescents can moderate their drinking with no substantial cost in psychosocial functioning relative to abstainers. Of course, studies like these involved an intervention, with input from alcohol treatment professionals, family, and friends. If an adolescent has both a history of poor alcohol-related decision making and resists abstinence, then parents, education stakeholders, and health professionals may have an important role in assisting adolescents

with a priori planning to minimize health and safety risks. While binge drinking is less than ideal, working with adolescents, rather than in opposition to them, may reduce major health and safety risks.

“Just Say No” Prevention Programs Have Limited or No Clear Long-Term Effects

A primary strategy arising from abstinence-oriented prevention programs has been education about the negative effects of alcohol consumption (Neighbors, Larimer, Lostutter, & Woods, 2006). Typically, such approaches commonly emphasize the long-term problems associated with heavy drinking, such as the risk of alcohol-related diseases (e.g., liver and heart disease) and alcohol dependence. While these outcomes are clearly evidence based, adolescents are commonly skeptical about these strategies for several understandable reasons. First, adolescents are less likely than adults to have experienced many of the negative consequences associated with alcohol, particularly illnesses and medical conditions related to alcohol (Brown, Anderson, Schulte, Sintov, & Frissell, 2005). Such consequences may seem alien to adolescents, or at least so far off in time as to appear irrelevant. Second, adolescents are more likely than not to have parents who consume alcohol—the “why is it OK for them but not for me” has a certain salience to many adolescents (Neighbors et al., 2006). Third, through direct or vicarious experience (e.g., peers, parents, media), adolescents are acutely aware of the pleasurable and powerful effects of alcohol, such as elation and sociability.

Abstinence-oriented school-based education programs have, with some exceptions, been found to result in little or no significant change in alcohol use among teenagers. The most widely implemented program, D.A.R.E., is now established as ineffective in the long term, although positive short-term changes in intentions/attitudes have been noted (e.g., Ennett, Tobler, Ringwalt, & Flewelling, 1994; Lynam et al., 1999; Rosenbaum & Hansen, 1998). D.A.R.E. is delivered over 17 weekly sessions by police officers in conjunction with peer leaders and role models. Sessions include information about alcohol effects, assertiveness education, strategies for refusing drugs, and coping with stress without alcohol use. Abstinence-oriented programs that are based on social learning principles and are highly interactive show greater promise (Tobler & Stratton, 1997). Notably, Project ALERT is an interactive group skills training approach that successfully delays onset (Ellickson, Bell, & McCuigan, 1993). A more intensive and longer program, Life Skills Training (LST; Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995) also focuses on drug refusal skills enhancement and generic social competencies. LST is associated with protective effects on binge drinking at 1- and/or 2-year follow-up in middle school high-risk and minority samples (Botvin, Griffin, Diaz, & Ifill-Williams, 2001; Griffin,

Botvin, Nichols, & Doyle, 2003). Statistically significant effects for LST were also meaningful, with the odds of binge drinking reduced by 50% for adolescents who received the program (Botvin et al., 2001). Large-scale trials also show that LST reduces heavy alcohol use at 12th grade (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995). The Northlands program results in less alcohol use at 3-year follow-up (Williams, Perry, Farbakhsh, & Veblen-Mortenson, 1999), but resulted in no significant effect on those who were already drinking at baseline, suggesting that an alternative approach is required for those students who are already drinking alcohol and therefore at greatest risk of alcohol-related harm (Perry et al., 1996).

Summary and integration

It is clear that by middle adolescence, almost a third of adolescents have engaged in binge drinking, and the behavioral risks associated with binge drinking are well established. Binge drinking is typically episodic and associated with parties, and general statistics may underemphasise the enhanced dangers associated with specific events and settings. About one-third of parents allow their adolescents to drink under some circumstances. While some research highlights the dangers of this, parents can have a constructive influence on the drinking behaviors of their adolescents, and provision of alcohol under certain conditions may decrease the likelihood of heavier drinking in potentially unsafe settings. Family relationship quality (manifested in clear communication, setting limits, developing safety plans, etc.) provides a strong foundation for reducing harm associated with drinking. Almost half of parents express little or no worry about their adolescent's drinking, even when drinking levels are high. This may reflect the reality that a substantial proportion of young people eventually moderate their drinking relatively unscathed. On the other hand, parents may be naïve to adolescents' drinking behaviors, and may be missing out on an important opportunity to assist their adolescent in reducing alcohol-related harm.

PROMISING HARM REDUCTION STRATEGIES AND ASSOCIATED CHALLENGES

Previous reviewers (e.g., Poulin & Nicholson, 2005) have described the challenges in defining adolescent-focused trials of alcohol-related harm reduction programs. On the basis of a systematic review of adolescent-oriented harm reduction approaches, they arrived at four criteria to identify such programs. In order to qualify as a harm reduction approach, the program must (1) purposefully focus on the reduction of drug-related harm, (2) conceive of harm as existing on a continuum, (3) have a neutral stance on abstinence, and (4) have measurable outcomes of harmful consequences.

School-based harm reduction programs commonly take the form of universal programs (delivered to all students), and indicative/selective programs (delivered to a subset of students with existing or emerging alcohol problems, or a risky profile for alcohol-related harm).

School-Based Harm Reduction Programs

A review of the literature found relatively few clear and well-conducted evaluations of universal HR programs for adolescent drinking. The dearth of studies on universal HR programs may be a consequence of unresolved concerns about the political/legal ramifications of not having abstinence as the key goal of a prevention program. In a small study conducted in one private school, Somers (1995; cf. Poulin & Nicholson, 2005), found that a cognitive-behaviorally oriented school program with explicit harm reduction goals resulted in a significant decrease in harmful alcohol-related events but no change in abstinence. Despite supporting evidence, Somers noted that concerns about flexible alcohol-related goals are a major obstacle to future empirical trials.

Inspired in part by Somers (1995), Poulin and Nicholson (2005) evaluated a project titled *An Integrated School- and Community-Based Demonstration Intervention Addressing Drug Use among Adolescents (SCIDUA)*. This Canadian program was administered to 1,960 students (grades 7–12) from four schools and compared progress to 8,002 students from the remainder of the province. Given prior concerns about a non-abstinence approach, Poulin and Nicholson used cooperative participatory research methods to ensure that participants had significant input into the processes and content of the program and its evaluation, and they used a quasi-experimental pre–post design to evaluate outcomes (there was no tracking of individual students to protect anonymity). The main measures of alcohol-related harm included drinking and driving, being a passenger with a driver under the influence of alcohol/drugs, and alcohol-related injury. The participatory research revealed strong consensus that harm reduction was an acceptable approach for senior high school students (15.5–17.5 years), but not for middle school students (12.5–13.5 years). The main reasons cited for the view that harm reduction is unacceptable for middle school students were (1) the low prevalence of substance use among younger students, (2) the large variability in maturity at lower levels, and (3) the tendency of younger students to misconstrue harm minimization as condoning substance use. For SCIDUA participants there was no change in the prevalence of alcohol use from baseline, but there was a significant drop in heavy episodic drinking and the prevalence of being a passenger in a car with a driver who had been drinking.

The Australian-based School Health and Alcohol Harm Reduction Project (SHAHRP; McBride, Farrington, Midford, Meuleners, & Phillips,

2004) is an interactive program that shows promise in minimizing alcohol-related harm. It consisted of 29 skills-based activities delivered in two phases over a 2-year period. The program involved learning to avoid risky situations, but also explicitly focus on minimizing harm by focusing on training in counting standard drinks, how to monitor their own drinking, and how to avoid become intoxicated. The study followed individual students on three occasions over a 32-month period from baseline, with measures of alcohol-related harm taken at each assessment point. At 12-month follow-up, both intervention and control groups showed increases in alcohol consumption; however, the intervention resulted in smaller increases relative to controls. The intervention reduced the harm that young people reported associated with their own use of alcohol, with intervention students experiencing 32.7%, 16.7%, and 22.9% less harm from first follow-up onward. Contrary to the common finding that the effects of prevention programs decay over time, the SHAHRP program resulted in maintained reductions in harm 17 months after completion of the full program.

A limitation of school-based harm reduction programs are the various biases in pathways to participation that may result in the exclusion of students who most need such programs. One such bias is the tendency for students with more significant alcohol problems to drop out of school. While statistical technologies are available to address attrition biases, there is a moral imperative to maximize the chance that students who drop out receive assistance through some other forum. A second source of bias is inherent in the process of seeking active parental consent. Because harm reduction programs are not commonly a part of school curricula and harm reduction has controversial elements, active parental consent seems advisable. However, seeking active parental consent for adolescents to participate in research often results in low recruitment rates and biased samples that compromise the scientific integrity of studies (Frissell et al., 2004; Kelly & Halford, 2007). Specifically, Frissell and colleagues (2004) examined the sample biases in drinking prevalence and severity among adolescents that resulted from active versus passive consent. Active parental consent resulted in underrepresentation of lifetime prevalence and high-risk drinking relative to passive parental consent. Thus, seeking parental consent tends to skew samples of recruited participants so that the very adolescents who researchers might most want to understand, those potentially at high risk of adjustment problems, are less likely to participate in research (Jason, Pokorny, & Katz, 2001).

In summary, universal harm reduction programs are scarce, but at least three studies support the utility of this approach for older high school students. Traditionally, harm reduction philosophies have neither condoned nor condemned alcohol consumption, and have held abstinence as an ideal goal among a suite of potential alcohol-related goals. Although a proportion of young students are likely to have experience with drinking, there are understandable concerns among teachers and other education gatekeepers

regarding the appropriateness of programs that have flexible alcohol-related goals. The SCIDUA program included a built-in dialogical process between stakeholders to address these and other concerns. It seems that harm reduction programs may best serve and be served by meeting gatekeepers, as well as adolescents (where they are at), in readiness to address harm reduction principles.

Indicated/Selective Harm Reduction Programs

Several evaluations that make some reference to harm reduction or harm minimization have been conducted, with the majority of recent studies involving some variant of brief motivational interviewing (BMI). Motivational interviewing has an intrinsically smooth fit with harm reduction philosophy, in part because of its emphasis on nonconfrontation, personally relevant feedback, and meeting the client “where they are at” in terms of goal setting (Masterman & Kelly, 2003). The domination of BMI in recent studies probably reflects its strong evidence base in the adult alcohol literature, its relative cost-effectiveness, as well as offering a solution to the problems of attrition commonly found for longer interventions. In all, the available indicated prevention studies have at least a partial focus on harm reduction by focussing on reducing hazardous drinking, but rarely meet the adopted definition of harm reduction (i.e., a focus on reducing harm without necessarily reducing alcohol use), and measurement of alcohol-related harm.

Monti and colleagues’ (1999) study of BMIs for emergency room admissions is a very rare example of a study that clearly states an emphasis on reduction of alcohol-related harm rather than alcohol use. This study involved older adolescents (age 18–19 years) admitted to hospital following alcohol-related injury. Participants were randomly assigned to a BMI or to standard care. At follow-up, both interventions showed reduced alcohol consumption, but BMI participants had significantly lower incidences of drinking and driving (32% reduction), and alcohol-related injuries were halved relative to those in standard care. Among adolescents with more pervasive and chronic life problems, BMI seems to work less well. Perhaps unsurprisingly, BMI was associated with no significant change in alcohol problems or use when administered to homeless adolescents (Peterson, Baer, Wells, Ginzler, & Garrett, 2006).

Bailey, Baker, Webster, and Lewin (2004) evaluated a BMI + CBT (four-session) intervention relative to no treatment for a small sample of adolescents with poor socioeconomic backgrounds. Based on HR ideas, the intervention included such topics as setting limits to drinking, identifying a standard drink, but drinking plans appeared limited to refusal skills training rather than a broader focus on minimizing the risk of negative consequences. Results suggested that the intervention stalled an erosion of readi-

ness to change and increases in hazardous drinking at follow-up. Changes in alcohol-related risk were ambiguous, because both groups increased on the measure of risk, and the BMI group had higher scores on the measure of risk at pretreatment.

Harm Reduction Interventions for Parents of Adolescent Drinkers

Harm reduction interventions delivered to parents make considerable sense, given the realities of parent drinking, parent approval rates related to adolescent drinking, common settings of adolescent drinking (parties at private residences), and that parents are commonly the gatekeepers of alcohol-related prevention/intervention for their children. While abstinence-oriented programs for adolescents have included parent interventions that have established efficacy (e.g., Project Northland; Stigler, Perry, Komro, Cudeck, & Williams, 2006), harm reduction programs involving parents of adolescents have received little attention. In the adult harm reduction literature, a lot has been learned about how to increase the safety of drinking patrons. For example, late-night public transport from drinking premises, using plastic glassware, limiting crowding, provision of seating, and training to defuse arguments have been found to be effective in reducing alcohol-related violence and injuries in and around licensed premises (Homel, McIlwain, & Carvolth, 2004). These ideas could be adapted or expanded to maximize the safety of adolescents drinking during private gatherings.

To counteract the challenges of heavy drinking during Schoolies week, an impressive collaboration of local councils, state governments, and nonprofit organizations has led to a suite of harm reduction strategies based on the assumption that adolescents can potentially minimize alcohol-related harm. Government websites and school-based education sessions for 12th graders are used to educate school leavers about the risks of attending Schoolies. Parents are given practical advice, such as ensuring that teenagers have an “in case of emergency (ICE)” number saved in their cell phone, checking the safety information available in hotels, having scheduled “check-in” calls with parents, knowing where the adolescent is staying, encouraging students to look out for one another, an escape plan in the event of feeling unsafe, carrying identification, and registering their attendance with the Queensland government. Teenagers are advised to consider the risks of receiving fines, using fake IDs, knowing the strength of alcohol, remembering to eat, drink water, being vigilant about drink “spiking,” practicing safe sex, dealing with unwanted sexual advances, knowing how to contact registered carers/volunteers, wearing footwear, staying with friends, booking accommodation, having a plan for getting home, having a designated (nondrinking/drug-using) driver, carrying money for phone calls/taxi, and not swimming at night and/or when intoxicated or using drugs. Wire-fenced and guarded beach areas with ambulance personnel are

used to ensure ages are restricted to school leavers with appropriate identification, given reported problems with older males entering these areas and “preying” on young students. It remains an empirical question as to how many adolescents and parents consume this information and actually use these suggested strategies. This is a valuable area for further research that would greatly inform the debate about how alcohol-related harm might be minimized without necessarily restricting alcohol use.

Integration

The long-term effects of abstinence-oriented universal prevention programs have been disappointing. Abstinence-oriented programs relying on didactic education are generally ineffective, and interactive programs have mixed and modest effects on medium-term alcohol use, with effects for gold-standard programs most evident in delayed onset of drinking. Measures of alcohol-related harm are rarely administered in these sorts of programs, and effects are often most evident in delayed onset of alcohol use. These programs seem to have little to offer the substantive proportion of students already engaged in heavy and problematic drinking. Harm reduction programs have rarely been evaluated, but the results are promising. Conducted mostly outside the United States, harm reduction programs for adolescents show promising drops in binge drinking and potentially harmful alcohol-related behaviors. Furthermore, there is preliminary evidence that reductions in harmful/risky behaviors are maintained well. The latter finding is particularly important, given that alcohol use typically continues to escalate through late adolescence.

Clearly, harm reduction studies are a challenge to implement for younger adolescents, in part because of the perceived inappropriateness of programs that have flexible alcohol-related outcomes. On the other hand, available research very clearly shows that stakeholders view harm reduction strategies as appropriate for older adolescents. In the current political climate, this age group may be the most viable start point for evaluating alcohol-related universal harm reduction approaches. With thorough, extended, and responsive consultation, harm reduction approaches may be effective and challenge the idea that adolescents do not have the capacity to reduce the risk of alcohol-related harm. However, more evidence-based dialogue is needed with respect to younger adolescents, particularly given that a considerable proportion of young adolescents have experienced or are at risk of alcohol-related harm. It may be the case that indicated/selective harm reduction programs may be most appropriate for these younger groups. There are challenges to detecting problems in this group; however, BMI programs have support as a viable and effective way of engaging adolescents. Parent participation may be a linchpin to harm reduction strategies for adolescent alcohol-related harm, given that parents commonly

allow adolescent drinking, and in the context of good parent–adolescent relationship, may be well placed to work with their adolescents to reduce the risk of harm. Parent-oriented websites centered on special adolescent-oriented events provide ample examples of pragmatic strategies to reduce harm. More research is needed on the extent of and conditions under which adolescents take these strategies on board.

CONCLUSION

Adolescent drinkers have been marginalized by the historical emphasis of policy and research on teenage abstinence. A variety of universal and indicated/selective harm reduction programs now have empirical support, and reduced alcohol-related harm is a promising dimension of change. Nevertheless, harm reduction programs and associated trials are rare, and fears remain about how young teenagers might interpret and react to harm reduction messages. Overall, harm reduction approaches to adolescent alcohol problems show promise and are worthy of further public dialogue and research investment.

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PART IV



THE ROLE OF HARM REDUCTION IN U.S. DRUG CONTROL POLICY

CHAPTER 13



Harm Reduction and Public Policy

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Since the turn of the century, drug control policy in the United States has been characterized primarily by prohibition; the possession, use, and distribution of most psychoactive substances are expressly forbidden by authority of law. Beginning in 1909 with the passage of the Smoking Opium Exclusion Act, legislation passed by the federal government has criminalized almost all pharmacological agents that might be used to alter consciousness. The Controlled Substances Act of 1970 (as amended in 1984, 1986, 1988, 1990, 1993, 1996, 2000, 2004, 2005, and 2008) is the controlling national drug legislation of today, and applies to all psychoactive drugs considered dangerous by the government (U.S. Drug Enforcement Agency, 2010).

The Controlled Substances Act divides drugs into five categories or schedules. Schedule I drugs are thought to have the highest potential for abuse and no accepted medical use, and are thus the most strictly controlled. Examples of Schedule I drugs include heroin, LSD, marijuana, and various “designer drugs” (chemicals such as MDMA designed to mimic the pharmacological effects of controlled drugs). Schedule II drugs, including morphine and cocaine, are thought to have limited accepted medical uses, but also have a high potential for abuse. Drugs placed on Schedules III,

IV, and V (e.g., barbiturates, benzodiazepines) have accepted medical uses and are thought to have progressively lower abuse potential (the higher the number, the lower the potential for abuse; Hart, 1994).

Over the past two decades, governmental attempts to enforce the prohibition of these controlled substances have dramatically intensified. The Federal Anti-Drug Abuse Act of 1988 established as a policy goal of the U.S. government the "creation of a drug-free America," and was seen by many as the formal declaration of the "war on drugs." The Anti-Drug Abuse Act of 1988 established an Office of National Drug Control Policy (ONDCP) to set priorities and objectives for national drug control, to promulgate a National Drug Control Strategy on an annual basis, and to oversee this strategy's implementation (see ONDCP, 1997b).

The ONDCP has come to codify desirable outcomes as "goals" in the annual National Drug Control Strategy. During the first Bush administration, the sole objective of drug policy was to reduce the overall level of drug use, as measured by reductions in nationwide survey-based measures. Consequently, five out of the nine goals in the National Drug Control Strategy under President Bush were simply to achieve reductions in use as measured by the National Household Survey on Drug Abuse. The primary mechanism used to achieve these goals was a dual emphasis on interdiction and domestic law enforcement (Nadelman, 1989; Reuter & Caulkins, 1995).

Beginning in 1994, the Clinton administration made significant steps toward a more balanced National Drug Control Strategy by moving the focus away from casual and intermittent drug use and calling for a reduction in law enforcement's share of total expenditures, while increasing the proportion of federal funding targeted for treatment. The goals of the 1997 National Drug Control Strategy reflected, in principle, this more balanced approach. The five goals for the 1997 strategy were as follows:

1. Educate and enable America's youth to reject illegal drugs as well as alcohol and tobacco.
2. Increase the safety of America's citizens by substantially reducing drug-related crime and violence.
3. Reduce health and social costs to the public of illegal drug use.
4. Shield America's air, land, and sea frontiers from the drug threat.
5. Break foreign and domestic drug sources of supply (ONDCP, 1997b).

Although these goals certainly appear to reflect a multifaceted, balanced drug control strategy, examination of fiscal year (FY) 1997 budgetary appropriations for each of these goals provides a different picture. Appropriations for goals intended to reduce the supply of available drugs by strengthening domestic law enforcement efforts (Goal 2), interdicting drugs

at our borders (Goal 4), and disrupting and dismantling major national and international drug producers and traffickers (Goal 5) accounted for 68% of the \$15.2 billion spent on drug control by the federal government in FY 1997. Only 33% of the budget went to efforts aimed at reducing demand for drugs (e.g., prevention and treatment) (National Criminal Justice Reference Service [NCJRS], 1998). Despite considerable rhetoric to the contrary, the relative level of investment in demand-reduction programs evident in Clinton-era federal drug control spending was virtually identical to the proportion invested in prevention and treatment throughout the 1980s—approximately 30% (Jarvik, 1990). Although annual National Drug Control Strategies under the Clinton administration repeatedly called for a significant expansion in treatment and a reduction in law enforcement's overall share of total federal expenditures (Reuter & Caulkins, 1995), budget figures clearly indicated that the necessary funds were not allocated to implement this shift in policy.

Faced with the failure of the previous administration's drug control policies, President George W. Bush unveiled a new strategy in 2002 that set as the new national priorities (1) stopping use before it starts (i.e., substance use prevention); (2) healing America's drug users; and (3) disrupting the market. In contrast to the Clinton-era budgets, drug control funding was, at least initially, allocated in a more balanced manner; indeed, in 2003, a full 45% (\$6.2 billion) of the national drug control budget was allocated toward demand reduction (prevention and treatment) efforts (ONDCP, 2005). However, by the end of the Bush administration, the proportion of funds allocated to demand reduction had fallen to near Clinton-era levels (ONDCP, 2010). President Barack Obama was elected in 2008 after running a strong campaign that projected themes of "hope" and "change." Indeed, he has followed through on both of these promises with respect to drug policy. Within the first 2 years of his presidency Obama has already given the harm reduction community "hope" that the administration is going to institute a new approach to the war on drugs, with Gil Kerlikowske (Obama's director of the ONDCP) stating during an interview that the administration "ended the war on drugs" (*National Journal*, May 28, 2009; available at www.nationaljournal.com/njonline/i-ve-ended-the-war-on-drugs-20090528). As discussed in more detail below, the Obama administration has also initiated significant "change" in its 2010 drug-control strategy and one significant change has already been enacted: Obama signed into law a bill that lifted the federal ban on funding for needle exchange programs. Furthermore, in his proclamation of September as the National Alcohol and Drug Addiction Recovery Month, Obama explicitly mentioned "an urgent mission to save lives from the hazards of addiction" (available at www.whitehouse.gov). It is interesting to note that the Obama administration has generally focused on reducing harm, rather than fighting addiction.

NATIONAL DRUG CONTROL STRATEGY FROM 1997 TO 2010: EVALUATING THE EFFECTIVENESS OF U.S. DRUG CONTROL POLICIES

In this section, we outline the stated goals of the National Drug Control Strategies over the past two decades and examine a wide variety of data in an effort to determine how effective policy initiatives have been at achieving these goals.

The 1997–2002 National Drug Control Strategy

- *Goal 1. Educate and enable America's youth to reject illegal drugs as well as alcohol and tobacco.* In an effort to estimate the prevalence of drug use among U.S. citizens 12 years of age or older, the National Institute on Drug Abuse (NIDA) has conducted the National Household Survey (now called the National Survey on Drug Use and Health) every 2 or 3 years since 1972. The results of the survey conducted in 1995 indicated that more than a third of all Americans age 12 and over admitted to having tried an illicit drug, and an estimated 12.8 million Americans (about 6% of the population) admitted to having used illegal drugs within the past 30 days. Although the magnitude of this figure may seem shocking, it actually represents a decrease in reported drug use relative to previous National Household Survey data. When viewed longitudinally, the data for adults reveal a gradually declining trend in use of all types of drugs between the early 1980s and 1996. Between 1996 and 2002, however, rates of use in this population showed a sharp increase to 19.5 million (8.3% of the population) (Newcomb, 1992; Substance Abuse and Mental Health Services Administration [SAMHSA], 2002).

Trends in drug use among America's youth during this time, however, are quite different. The National Senior Survey, administered annually by the Monitoring the Future Study at the University of Michigan, has polled high school seniors about their alcohol, drug, and tobacco use annually since 1975. In 2002 the Monitoring the Future Study reported that the use of illicit drugs among eighth graders had increased by more than 60% between 1991 and 2002, and that more than one in five high school seniors had used marijuana within the past 30 days (Johnston, 2002). Overall, the National Survey on Drug Use and Health data indicate that in 2002, 11.6% of youth ages 12–17 had used illicit drugs within the 30 days preceding the survey, up from only 5.3% in 1992 (SAMHSA, 2002).

In summary, then, it appears that the prevention efforts of the 1990s were largely unsuccessful. The widespread media attention focused on these rises in youth drug use prompted President Clinton to propose a 22% annual increase in his FY 1998 budget allocation for prevention efforts

(NCJRS, 1998). Although this certainly appeared to be a step in the right direction, it seems that much of the funding increase was not used to develop and implement evidence-based prevention practices in American schools; in fact, quite the opposite was the case. In their review of the Safe and Drug Free Schools program, Hantman and Crosse (2000) found that fewer than 10% of schools implemented an empirically validated program and that only 50% had developed prevention objectives that were measurable. Similarly, in reviewing the comprehensiveness of prevention programs in schools, Wentner and colleagues (2002) found that nearly two-thirds of schools met four or fewer of the Centers for Disease Control and Prevention's seven guidelines for effective prevention programs. Perhaps even more troubling is the fact that the criteria used to determine quality of prevention programs were so fundamentally flawed that programs with virtually no empirical validation were listed as "exemplary" (Gorman, 2002). Perhaps the greatest testament to the inadequacy of prevention efforts during the Clinton era, however, was the widespread use of the Drug Abuse Resistance Education (D.A.R.E.) curriculum.

D.A.R.E. was developed in 1983 by the Los Angeles Police Department and the Los Angeles school district; it consists of a series of weekly lessons taught to fifth and sixth graders by uniformed police officers, who lecture and assign homework on the dangers of alcohol, drugs, and gangs. In the 1980s, D.A.R.E. quickly became the nation's standard antidrug curriculum. At the height of its popularity, D.A.R.E. was taught at more than 70% of all of the nation's school districts (D.A.R.E., 2011).

Although there is considerable controversy surrounding the conclusions that can be drawn from studies that have evaluated the effectiveness of the D.A.R.E. program, it is a well-documented fact that teen drug use skyrocketed between 1991 and 1996, despite the widespread popularity of D.A.R.E. and the increasing financial investments that were made in it. In the most rigorous and comprehensive evaluation of the D.A.R.E. program conducted to date, Ennett, Tobler, Ringwalt, and Fleming (1994) pointed out what is perhaps one of the most troublesome implications of D.A.R.E.: "[It] could be taking the place of other, more beneficial drug education programs that kids could be receiving."

- **Goal 2. Increase the safety of America's citizens by substantially reducing drug-related crime and violence.** The primary vehicle through which a substantial reduction in drug-related crime and violence was to be achieved was the strengthening of domestic law enforcement efforts. In 1997 alone, the federal government spent \$8.1 billion—or 53% of its total budget for drug control—on domestic law enforcement efforts (NCJRS, 1998). This emphasis on the penal or criminal justice approach has been a consistent part of federal drug control policies ever since the "war on drugs" was formally declared in 1988.

Much of the justification for the current criminal justice approach to drug control comes from the well-documented connection between drugs and violent crime. The apparent rationale behind drug control policies emphasizing law enforcement and criminal justice interventions is that drugs cause crime, and that declaring a “war on drugs” will put a stop to drug-related crime. In discussing the relationship of drug policy to violent crime, however, it is of paramount importance to distinguish between violence caused by actual drug use or substance abuse (i.e., “drug-induced” violence, or violence caused by the actual physical and/or mental alterations brought on by use of illicit drugs) and violence that is a by-product of the high stakes involved in the illicit drug trade (i.e. “drug-prohibition-related” violence, or violence resulting from participation in the violent but lucrative drug trade under circumstances of drug prohibition) (New York County Lawyers Association [NYCLA], 1996).

In the early 1990s, the U.S. Department of Justice (Roth, 1994) conducted a comprehensive search of all of the existing evidence on the relationship between drugs and violence and issued a report of the findings. Some key findings relevant to this discussion are as follows:

1. Of all psychoactive substances, alcohol is the only one whose consumption has been shown to commonly increase aggression.
2. Illegal drugs and violence are linked primarily through drug marketing: disputes among rival distributors, arguments and robberies involving buyers and sellers, property crimes committed to raise drug money, and, more speculatively, social and economic interactions between illegal drug markets and surrounding communities (Roth, 1994, pp. 1–2).

In 1993, NYCLA formed a Drug Policy Task Force whose purpose was to develop and urge implementation of rational and workable alternatives to the drug control policy of the time. This task force consisted of a “blue-ribbon” panel of prominent and respected individuals drawn from legal, medical, and academic circles, as well as from each branch of government—legislative, executive, and judicial, including four members of the New York State Supreme Court. The panel engaged in extensive study, public hearings, discussion, and analysis of various issues within the scope of the drug policy debate. In its 1996 report, the NYCLA task force reached conclusions virtually identical to those reached in the Department of Justice report quoted above:

There is no doubt that some forms of drug use may result in undesirable, unacceptable and antisocial behavior. However, it appears that the overwhelming causes of violent crimes, which often find categorization under the heading of “drug related” are caused by various factors unrelated to actual pharmacological effects of controlled substance upon human behavior. Rather, much

of the violent crime can be said to be “drug prohibition-related,” insofar as it results from the high costs, and huge profits and great stakes involved in the world of drug commerce as it is carried on in the cities, states, and nations throughout the world. (NYCLA, 1996, p. 17)

As one commentator remarked, “People aren’t killing each other because they are high on drugs, any more than Al Capone ordered the execution of rival bootleggers because he was drunk” (New York Bar, 1994, quoted in NYCLA, 1996, p. 21). Ethan Nadelman, a vocal opponent of current drug policy, would agree: “If we were to criminalize alcohol again, we would have the same alcohol-associated violence we had during Prohibition. ... In fact, the criminalization of drugs is the chief source of drug-related violence, and it breeds all sorts of other problems” (1992, p. 210).

In summary, some consensus seems to have emerged that the U.S. government’s emphasis on the criminal justice approach to controlling illegal drugs not only failed to resolve the problems of violent crime, but exacerbated them. But some readers might object: “What about the government figures indicating that the incidence of violent crime in America evidenced a sharp decline in the 1990s? Doesn’t that mean that we were winning the war on drugs?” Not necessarily. Even if such figures accurately reflected a substantial decrease in “prohibition-related” crime, it is important to remember that any reductions achieved under Clinton-era policies came at a tremendous social cost. The social costs of prohibitionist drug control policies, as well as policies designed to reduce the social and health costs of illegal drug use itself, are explored next.

- ***Goal 3. Reduce health and social costs to the public of illegal drug use.*** On its face, the third goal represented the most significant departure from the policies of the first Bush administration, which focused entirely on achieving reductions in drug use through reducing supply. Much to the credit of the Clinton administration, the inclusion of a goal to reduce the “health and social costs” of drug use, instead of focusing exclusively on the reduction of drug use itself, was certainly a step toward addressing the realities of the social problems associated with substance abuse. As mentioned previously, however, budget allocations for this goal lagged far behind the proportion of funds allocated for the more traditional goals of drug control policy, including domestic law enforcement, international efforts, and interdiction efforts. Only \$3.4 billion out of the total \$15.2 billion budget for drug control spending in FY 1997 (22%) was allocated for this goal (NCJRS, 1998).

Furthermore, an initial reading of this goal suggested that it might have embraced non-abstinence-based interventions designed to reduce the physical and societal harm experienced by active drug users (e.g., needle exchange, substance substitution, outreach efforts); however, examination of the specific objectives tied to this goal indicate that harm reduction inter-

ventions are not among the initiatives supported. The vast majority (more than 90%) of funds allocated for this goal in FY 1997 were tied to funding existing abstinence-oriented treatment, to training and credentialing of professionals who deliver such treatment, and to treatment research. The remaining funds allocated for this goal were earmarked primarily for promoting the national adoption of drug-free workplace programs that emphasize drug testing, and for expanding community-based antidrug coalitions (e.g., in schools, businesses, law enforcement agencies, social service organizations, religious organizations) (NCJRS, 1998). In summary, although this policy goal may superficially seem like a refreshing change of course for drug control policy, a closer inspection reveals that it is philosophically consistent with the traditional zero-tolerance approach that stigmatizes, marginalizes, and often outright criminalizes drug users.

Just as the continued emphasis on prohibitionist, criminal justice approaches toward drug-related crime seem to have exacerbated rather than alleviated the level of violence in our communities, so did Clinton-era drug policy exacerbate the very social and health problems that it was ostensibly designed to reduce. A case in point is the ever-increasing number of individuals who are incarcerated because of violations of drug laws (McMillon, 1993). A report released on January 8, 1998, by the National Center on Addiction and Substance Abuse at Columbia University determined that the number of inmates and prisoners in the nation had more than tripled between 1980 and 1998, and that illegal drugs and alcohol had helped lead to the imprisonment of four out of five inmates (Wren, 1998). In absolute numbers, each week between 1979 and 1998, more than 900 new prisoners had been incarcerated (Holmes, 1994). According to the Bureau of Justice Statistics, as of mid-1997, one of every 155 U.S. residents was behind bars (Reuters, 1998). The costs of constructing the many new prisons required to house this population, to expand existing ones, and to provide shelter, food, clothing, and medical care for those already incarcerated was more than \$30 billion in 1994, up from \$4 billion in 1975 (Holmes, 1994).

The absolute economic costs of incarcerating those who violate drug laws are staggering. However, these figures do not speak to the equally troublesome yet less quantifiable social costs that our criminal justice approach to drug policy has wrought. As the NYCLA Task Force points out:

Imprisoning individuals for drug use causes further detriment to those individuals and their families, destroying family cohesion and undermining rehabilitation efforts. ... Studies have shown that children whose primary caretakers have spent significant amounts of time in prison are more likely to manifest symptoms of anxiety, depression, behavioral difficulties and juvenile delinquency, which may often be followed by adult criminal activity. (1996, p. 9)

As for the incarcerated individuals themselves, the 1998 Columbia University study found that only 17% of those who needed drug treatment actually received it while in prison. Joseph Califano, Jr., the chairman of the center that sponsored the report, said that releasing inmates without treating their addictions was “tantamount to visiting criminals on society” (quoted in Wren, 1998, p. A14). Even if untreated drug users are able to stay out of jail, their criminal record decreases the likelihood of successful employment and complete rehabilitation; this in turn has an adverse impact on the financial, emotional, and social stability of their households, as well as of the larger community. Furthermore, incarcerated offenders bring their experience of violent prison culture back home upon release. Many inner-city neighborhoods have already been turned into literal war zones because of the illicit drug trade (NYCLA, 1996).

Another social cost of prohibitionist drug policies in the United States has been the erosion of civil liberties tolerated in the name of the “war on drugs.” This erosion has become so extreme that some commentators have gone so far as to claim:

The Bill of Rights is in danger of becoming meaningless in cases involving drugs. Tenants charged with no crime are evicted from homes where police believe drugs are being sold. Public housing projects are sealed for house to house inspections. The Supreme Court has permitted warrantless searches of automobiles, the use of anonymous tips and drug courier profiles as the basis for police searches, and the seizure of lawyer’s fees in drug cases. (Grinspoon & Bakalar, 1994, p. 357)

As the NYCLA task force pointed out, “what might be called the ‘drug exception’ to the Constitution threatens the civil liberties of every citizen since precedents set in the context of a drug case are later cited to justify limitations of civil rights in other contexts” (p. 18). With the increasing prevalence of drug testing, citizens’ rights to privacy have been further eroded in the name of the “drug war.” In addition, concerns about “due process” and morality have arisen through increased use of civil forfeiture laws, which deprive innocent families of substantial assets (and sometimes their homes) because of the actions of a single member of the household.

Rhetoric aside, it seems that current federal drug control policy has failed to make significant headway toward reducing the social costs of drug abuse. In fact, many individuals in the judiciary, the medical establishment, and the legal profession have concluded, as they have done in regard to “drug-related crime,” that Clinton-era drug policy incurred a far higher social cost than the social costs associated with illegal drug use itself. What, then, of public health effects? Was the 1997 National Drug Control Strategy goal to reduce the health costs of illegal drug use successful?

Objective 2 associated with Goal 3 in the 1997 strategy was to “reduce drug-related health problems, with an emphasis on infectious diseases” (ONDCP, 1997b). Although this was certainly a laudable objective, the 1997 strategy fails to articulate any concrete mechanisms by which this reduction is to be achieved. Meanwhile, the overwhelming emphasis on law enforcement in the current strategy has had a multitude of untoward effects on public health. Because drug use is treated as a criminal offense in this country, fears of arrest, stigmatization, and even removal of children from their homes prevent substance users from accessing available counseling and health care resources.

Due to the illegal status of many dangerous drugs, the quality and purity of drugs available on the street are completely unregulated. This results in the production and consumption of adulterated drugs, which in turn results in more disease and death from drug use than would be the case if production and distribution were regulated—for example, by the Food and Drug Administration (Association of the Bar of the City of New York, 1994; Nadelman, 1998). In summary, it appears that present drug control laws themselves have directly led to an increase in the health risks associated with drug use and substance abuse. In addition to those dangers posed by lack of quality control and safety regulations governing illegal drugs, drug paraphernalia laws, together with a failure to promote needle exchange programs, have resulted in the preventable spread of AIDS and other similarly transmitted diseases to users, their partners, and children (NYCLA, 1996, p. 11).

• ***Goal 4. Shield America’s air, land, and sea frontiers from the drug threat; and Goal 5. Break foreign and domestic drug sources of supply.*** The final two goals constitute the primary emphasis of U.S. international drug control and interdiction efforts. They accounted for approximately \$5 billion (33%) of total drug control spending in FY 1997, equivalent to the budget for all treatment and prevention efforts combined (NCJRS, 1998). In essence, these goals were aimed at stopping the movement of drugs from the sources of production to the United States and at curbing production of drugs in foreign nations. To these ends, the federal government spends billions of dollars annually to help source and transit countries to eradicate crops and destroy major drug-trafficking organizations, as well as to conduct “flexible operations to detect, disrupt, deter and seize illegal drugs in transit to the United States and the U.S. borders” (ONDCP, 1997b, Goal 4, Objective 1).

In February 1997, pursuant to a congressional request, the U.S. General Accounting Office (GAO) summarized the findings of its previous work on international drug control and interdiction efforts, focusing on “1) the effectiveness of U.S. efforts to combat drug production and the movement of drugs into the United States; 2) obstacles to implementation of U.S. drug

control efforts; and 3) suggestions to improve operational effectiveness” (U.S. GAO, 1997, p. 1). In the process of preparing the summary report, investigators reviewed 59 prior GAO reports. They also “spoke with appropriate officials and reviewed planning documents, studies, cables, and correspondence at the Departments of Defense, State, and Justice—primarily the Drug Enforcement Agency; the U.S. Coast Guard, the U.S. Customs Service; the U.S. Agency for International Development; the U.S. Interdiction Coordinator; and ONDCP in Washington D.C.” (U.S. GAO, 1997, p. 25).

The investigative team from the GAO’S Office of International Relations and Trade Issues also met with senior Bolivian, Peruvian, and United Nations law enforcement and drug control officials responsible for counter-narcotics programs. In a surprisingly candid appraisal, the GAO investigators concluded:

Despite long-standing efforts and expenditures of billions of dollars, illegal drugs still flood the United States. We have reported on obstacles faced by the United States and host countries in their efforts to reduce illegal drug supplies. Although these efforts have resulted in some successes, including the arrest of traffickers and the eradication, seizure, and disruption of the transport of illegal drugs, they have not materially reduced the availability of drugs. (U.S. GAO, 1997, p. 3)

The report went on to identify a plethora of reasons for U.S. counter-narcotics programs’ lack of success: (1) drug traffickers have become sophisticated, multibillion-dollar industries that quickly adapt to U.S. drug control efforts; (2) efforts are constrained in source and transit countries by competing economic and political policies; and (3) drug traffickers are increasingly resourceful in corrupting source and transit countries’ institutions. We would like to offer an additional, more parsimonious reason for the failure of U.S. efforts to reduce the supply of illegal drugs. Simply put, where there is demand, supply will follow. As William S. Burroughs (1959) observed in his novel *Naked Lunch*, “The addict in the street who must have junk to live is the one irreplaceable factor in the junk equation. When there are no more addicts to buy junk there will be no junk traffic. As long as junk need exists, someone will service it” (p. xi).

The 2002–2009 National Drug Control Strategy

- **Priority 1. Stopping use before it starts.** A key component of the Bush administration’s prevention strategy was the Drug Free Communities Program, which provides federal dollars to help communities form and improve coalitions with the goal of reducing substance use in youth (ondcp.gov). Although this initiative actually began in 1997 (ondcp.gov),

under the Bush administration it expanded considerably. Whereas in 2002 the program received only \$50 million annually, by 2009 this figure had nearly doubled to \$90 million (ONDCP, 2004–2010). During those years the number of community coalitions receiving federal grants under this program also increased – from 531 in 2002 to 741 as of 2009 (ONDCP, 2004–2010).

Unfortunately, the Bush administration's confidence in these programs has not been borne out by the evidence. Most studies have failed to find any evidence that community coalitions have an impact on substance abuse, and those effects that have been demonstrated have been very small. In 2006, Saxe and colleagues reviewed *Fighting Back*, a community activism program with coalitions in 12 locations throughout the United States, whose purpose is to unify businesses, politicians, and community leaders under a shared vision of the problem of substance use and its solutions (Hallfors, Hyunsan, Livert, & Kadushin, 2002). Their review found that *Fighting Back* had no impact in reducing binge drinking, substance use, or substance dependence, although a very small increase in awareness of treatment options was found. At the same time, their review found that some measures worsened, namely a decrease in the perceived harms of substance use. Similarly, a review of 19 community coalitions in Kentucky found no short-term reductions in substance use and long-term reductions in use and attitudes favorable to substance use that might best be described as negligible (Collins, Johnson, & Becker, 2007). In one example of a (partially) successful community coalition project, Fawcett and colleagues (1997) conducted a comprehensive review of Project Freedom, a community coalition operating in Kansas. Their review indicated that the program created high levels of community action, but that these actions translated into only moderate reductions in alcohol and drug use at best. Their research also indicated that the program's success may have been due to the dynamic leadership of a few key members, who have since resigned from the program.

Reviews of the structure and operation of community coalitions have also been unflattering. In a study that attempted to grade community coalitions in Mississippi on quality of leadership, participation, and integrity, Reinert, Carver, and Range (2005) found that the average score was 53 out of a possible 124 points (a C by their rating system). They concluded that nearly every coalition was in need of significant improvement, citing the fact that many failed to properly utilize the talent of their membership and failed to develop an adequate plan to assess outcomes and address shortcomings. Even greater operational problems are cited in other work describing the operations of the *Fight Back* programs. In their review, Lindholm, Ryan, Kadushin, Saxe, and Brodsky (2004) found that in the planning and development process, *Fight Back* coalitions were characterized by political conflict and that throughout the project, many coalitions failed to

properly integrate grassroots community leadership into the program and that they rarely achieved coordination or long-term participation among member organizations.

It would appear then, that even if community coalitions show potential for substance use prevention in theory, in practice they are plagued by operational and political problems that may hinder their success. And even those programs that are cohesive and effective in generating community action appear to have only minor effects on substance use in youth.

In addition to encouraging community efforts, beginning in 2003, the Bush administration began implementing a series of aggressive policies with the goal of educating America's children to resist substance use. Among these policies was the Safe & Drug Free Schools Program, a program that, among other things, provided funding to schools to institute or expand student drug testing programs. Since the inception of this program, the number of schools that screen students for substance use has increased significantly; in 2008, it was estimated that more than 16% of all school districts in the United States had instituted some sort of drug testing policy (Edwards, 2008). Despite this increase in popularity, some states refused to allow the implementation of drug testing policies in schools; the Washington State Supreme Court has recently ruled that drug testing of students is a violation of the state's constitution (American School Board Journal, 2008).

Ever since the United States Supreme Court upheld the legality of random drug tests for students in 1995 (LaCroix, 2008), these programs have been a topic of enormous debate. While proponents of random drug testing suggest that it facilitates early intervention in the process of substance use and addiction (Anonymous, 2003) and that it provides children with a much-needed crutch to resist initiation into substance use (ONDGP, 2003), critics of such policies question not only their legality on constitutional grounds (LaCroix, 2008), but also their implementation and validity. For example, as drug testing samples only a small proportion of the student body, these programs are unlikely to identify students in need of substance-related treatment (Brendtro & Martin, 2006). Furthermore, because most drug testing programs target only student athletes and participants in other extracurricular activities, they actually target the students least likely to be at risk for developing substance-related disorders (LaCroix, 2008). And whereas advocates for student drug testing laud these programs as compassionate and nonpunitive, in reality, the responses to a positive drug screen can be highly punitive, and in a disturbingly high proportion of cases, in direct contradiction to the federal guidelines for appropriate responses to a positive drug screen (Ringwalt et al., 2009).

The ethical, practical, and legal arguments notwithstanding, the central issue in student drug testing programs must be whether they actually deter substance use. The answer to this question appears to be that they do

not. In a study of more than 76,000 students, Yamaguchi, Johnston, and O'Malley (2003a) found that drug testing had no impact on illicit drug use in high school students, a result that was replicated in a follow-up study that examined the effect of random, suspicionless drug testing on student drug use (Yamaguchi, Johnston, & O'Malley, 2003b).

Unfortunately, the evidence against the efficacy of such practices and the legal and ethical arguments against them did little to diminish the Bush administration's support for them. Although there was a decrease in funding between 2005 and 2007 for drug testing programs, overall between 2003 and 2008, annual federal funding for student drug testing nearly tripled, rising from \$2 million to \$5.8 million annually (U.S. Department of Education, 2008).

The Bush administration also focused on anti-drug media campaigns that were designed to prevent adolescent drug use initiation. In 2001 the campaign "My Anti-Drug" was launched in collaboration with the Partnership for a Drug Free America at a cost of nearly \$200 million per year. The ads were youth-focused and designed to increase drug resistance, provide normative education about positive alternatives to drug use and the benefits of not using drugs, and describe the negative consequences of drug use. Results from two independent studies indicated that the "My Anti-Drug" campaign was not effective and in some analyses resulted in the possible iatrogenic effects of quicker initiation of drug use (Scheier & Grenard, 2010) and reduced intention to avoid marijuana use and increased marijuana initiation (Hornik, Jacobsohn, Orwin, Piesse, & Kalton, 2008). Potential explanations for the program's ineffectiveness provided by Hornik and colleagues (2008) included psychological reactance to perceived threats to personal freedom (e.g., the messages are suggesting youth resist drugs, which resulted in them expressing a pro-drug sentiment) and the implicit message that drug use is common among youth (thus requiring the messages).

A second campaign launched during the Bush administration was a rebranding of the "My Anti-Drug" campaign as the "Above the Influence" campaign, launched in 2005. "Above the Influence" was considerably distinct from prior anti-drug campaigns in that it focused on autonomy and youth aspirations; at the same time, the ONDCP focused their attention on the notion of marketing the program to youth by employing leading television advertising agencies and by placing the advertisements during nationally broadcast programs that are frequently watched by adolescents. In 2010 the campaign was further enhanced by incorporating a multitiered system of involving local community stakeholders. A recently published evaluation of the "Above the Influence" campaign concluded that self-reported exposure to the campaign was associated with significant reductions in marijuana use (Slater, Kelly, Lawrence, Stanley, & Comello, 2011). Furthermore, analyses indicated that some of the effects of the campaign

might be explained by the perception instilled by the campaign that autonomy and personal aspirations are associated with substance non-use.

Although the “Above the Influence” campaign represents a considerable victory in drug prevention, one of the major shortcomings of prevention policy over the previous 30 years has been a consistent failure to integrate prevention research into prevention policy and practice (Arthur & Blitz, 2000). In order to address this problem, the Substance Abuse and Mental Health Services Administration (SAMHSA), under the Bush administration, initiated the Strategic Prevention Framework (SPF) program. Part of this program were a series of block grants disbursed to state, local, and tribal governments that were designed to facilitate the process of assessing the need for and implementing evidence-based prevention programs (SAMHSA, 2011).

The process of building an effective prevention program begins with collection and analysis of epidemiological data to identify urgent needs (SAMHSA, 2009a). Once the need has been identified, communities are charged with designing and implementing a comprehensive, evidence-based strategy to reduce substance use in youth and with evaluating its efficacy on a regular basis. Although there is no evidence yet available on specific SPF grantee programs, this initiative is quite promising, as it is precisely the type of prevention initiative argued for by prevention researchers a decade ago (Arthur & Blitz, 2000) and because it is unique in mandating the use only of procedures supported by research in the program from design to implementation to evaluation (Flewelling, Birckmayer, & Boothroyd, 2009).

- **Priority 2. Healing America’s drug users.** The Bush administration’s plans for helping Americans struggling with substance-related disorders access treatment resources endorsed a three-pronged approach that included expanding the capacity of the national drug treatment system, helping individuals seeking treatment to gain access to counseling, treatment, and support services that would foster recovery, and using what the National Drug Control Strategy (2002–2009) calls “compassionate coercion” to engage substance users in the treatment process.

As part of the initiative to expand the national capacity of the substance abuse treatment system, \$1.6 billion in additional funding was provided to SAMHSA between 2002 and 2007 (ONDCP, 2002–2007). However, evidence for actual capacity increase appears to be mixed. The national inpatient treatment capacity remained unchanged between 2002 and 2009 (SAMHSA, 2009b), although average time spent on waiting lists for outpatient treatment fell from 28 days to 7 during this same period (SAMHDA, 2010), suggesting an increase in outpatient capacity.

Although the problem of capacity did (and still does) represent a tremendous obstacle to those seeking treatment, the Bush administration acknowledged that it was not the only barrier to recovery from substance

use disorders (ONDCP, 2002). In fact, among those who sought but did not receive substance use treatment, the top reason for not getting help was an inability to afford recovery services. In light of this issue, in 2004 the Bush administration began the Access to Recovery Program (ATR), a program that disburses grant funding to state and tribal governments to provide individuals with vouchers that help offset the cost of recovery or support services (SAMHSA, 2009c). Twenty-four states currently receive grant funding under the ATR program, and some 270,000 people had received ATR services as of 2009 (*Alcoholism and Drug Abuse Weekly*, 2008). Reviews of the ATR program have generally been favorable, showing that individuals receiving ATR services are more likely to remain in and complete treatment and have a higher chance of being gainfully employed after treatment, all of which are linked with better outcomes (Krupski, Campbell, Joesch, Lucenko, & Roy-Byrne, 2009). In populations of disabled individuals and individuals on Medicaid, the ATR program has also shown significant cost reductions in service utilization (Estee, Wickizer, He, Shah, & Mancuso, 2010; Wickizer, Mancuso, Campbell, & Lucenko, 2009), though how these reductions compare to the cost of ATR services rendered is yet unknown.

Unfortunately, although the aforementioned initiatives have shown promise, their benefit has been negligible in comparison to the magnitude of the substance abuse problem in the United States. It is estimated that more than 23 million Americans are in need of treatment for a substance-related disorder, of whom only 10.06% (2.33 million) actually receive any services (SAMHSA, 2009b). Moreover, since the inception of the ATR program and the provision of extra funding to increase the capacity of the treatment system, these figures have remained unchanged. Indeed, the 270,000 people who have been able to seek substance abuse treatment thanks to the ATR program represent a mere 1.2% of the 23 million Americans in need of such services.

In addition to expanding Americans' ability to access treatment services, the Bush administration also set out to narrow what the Drug Control Strategy of the time referred to as the "denial gap" (ONDCP, 2003), citing findings that of those who needed but did not receive any substance abuse treatment, more than 90% did not seek treatment because they felt they did not need it (SAMHSA, 2009b). The primary methods by which the Bush administration sought to close this gap was through grant funding that allowed the integration of Screening, Brief Intervention, and Referral to Treatment (SBIRT) programs into hospital emergency departments and the expansion of drug court programs across the country by providing states with funds to establish new drug courts.

SBIRT is a program that uses a motivational interviewing approach to quickly and effectively identify individuals visiting hospital emergency departments who may be experiencing problems related to substance use

and refer them to the appropriate level of care before substance use can escalate to dependence. Evidence for the benefits of SBIRT programs across the country have been overwhelmingly positive; indeed, studies find that they can be easily and seamlessly integrated into the emergency department's repertoire of services (D'Onofrio & Degutis, 2010), that they are effective in reducing alcohol and substance abuse, at least in the short term (AESRC, 2010; InSight, 2009; Madras et al., 2009), and that individuals receiving SBIRT showed improvements in emotional problems and had higher rates of employment and lower rates of homelessness 6 months after receiving a screening and brief intervention (Madras et al., 2009). Perhaps the most significant finding is that for every dollar spent on SBIRT services, \$3.81 is saved in reduced future hospital visits. In fact, if every eligible individual visiting the emergency department were to receive an SBIRT, the total cost savings would total more than \$1.8 billion (Gentilello, Ebel, Wickizer, Salkever, & Rivara, 2005).

Although the SBIRT program represents an unprecedented opportunity to intervene in substance use early in the process, between the program's inception and 2008, the last year for which national data are available, only 605,000 people had received SBIRT services (ONDCP, 2008b). In comparison to the 2.6 million annual visits to emergency department for alcohol-related injuries (Guohua, Keyl, Rothman, Chanmugam, & Kelen, 1998) and the estimated 5.5 million emergency department visitors eligible to receive an SBIRT each year (Gentilello et al., 2005), this number represents, in our opinion, far too little progress.

In addition to screening and brief interventions, drug control strategy between 2002 and 2009 placed a heavy emphasis on drug courts. These courts coerce individuals convicted of drug-related offenses into substance treatment by offering individuals a choice between incarceration or entering a drug treatment program. The hallmarks of such programs include frequent drug screening and sanctions of increasing severity in order to force participants into treatment compliance and abstinence (ONDCP, 2003). Proponents of the drug court model frequently state that they engage in a sort of enlightened coercion that is firmly grounded in biological theories of addiction (Tiger, 2011) and that drug courts are a viable solution to myriad problems created by the war on drugs.

The central assertion of proponents of the drug court model is that the combination of intensive supervision, frequent drug testing, and graded sanctions will help people achieve positive health and social outcomes. The evidence for these assumptions, however, is equivocal. Whereas studies find that drug courts in general do help to improve treatment retention and completion (Brecht, Anglin, & Dylan, 2005; Broner, Maryl, & Landsberg, 2005), studies specifically examining the effects of sanctions are somewhat less favorable, indicating that although the first sanction can be effective, future sanctions have little or no effect on treatment retention or comple-

tion (Brown, Allison, & Nieto, 2010), with other research indicating that sanctions have no impact on treatment retention at all (Hepburn & Harvey, 2007). Perhaps more telling than the equivocal nature of research on this topic is the fact that treatment retention and completion rates for drug court participants, even in the face of methods supposed to maximize compliance, are less than 50% (Belenko, 2001).

The research on treatment outcomes for drug court participants is also mixed. Although Brecht and colleagues (2005) found that drug court participation led to increased treatment retention and improved chance of completion, these factors did not translate into an increase in the number of days to relapse for participants. Other research, however, indicates that individuals engaged in court-mandated alcohol treatments show lower levels of drinking posttreatment, but that these results are no better than for those who enter treatment voluntarily (Miller & Flaherty, 2000), while recent work by Burke and Gregoire (2007) shows that individuals in coerced treatment settings show lower levels of use and lower addiction severity compared to those not entering treatment programs.

Regardless of the equivocal nature of the evidence, the drug court model presents other issues that should raise suspicion. Rather than diminishing the criminal justice system's oversight of substance use, drug courts may, in fact, expand it. As the drug courts often seek to create beneficial outcomes beyond simple abstinence, toward relationship and family stability, gainful employment, and positive friendships and relationships, these areas of life are brought increasingly under the scrutiny and supervision of the justice system, potentially empowering the courts to supervise and punish behaviors that have not traditionally fallen under its purview and that are not actually illegal (Tiger, 2011). This model also fails to account for the fact that lapses are a natural, often inevitable part of the recovery process; indeed, failure to strictly comply with the parameters of the drug court's treatment program, including abstinence, can result in ejection from the treatment program and imprisonment (Velazquez, 2010). Furthermore, research indicates that drug courts are no more effective than community-based alternatives (Walsh, 2011) and that while diversion to the drug courts creates significant cost savings over traditional criminal justice approaches to substance use (Carey & Finigan, 2004), evidence also indicates that treatment in the community is nearly ten times more cost effective than the drug court approach (Walsh, 2011). Perhaps most important, community-based treatment comes without the threat of a criminal conviction and the social problems linked thereto should an individual experience a relapse.

In summary, progress toward the goal of "healing America's drug users" was small between 2002 and 2009. Although several important programs were initiated, their overall impact on the problem of substance abuse and dependence in the United States appears to have been negligible. Indeed, if the policies of the Clinton era could be characterized as an

unadulterated failure, then these efforts of the Bush administration might just as easily be called the smallest of drops in what is certainly a very large bucket.

- **Priority 3: *Disrupting the market.*** Reducing the import of illegal drugs into the United States and eradicating production, distribution, and sale of drugs within the United States was one of the top drug control strategies of the Bush Administration. For example, in 2001 the Bush Administration funded the Andean Regional Initiative, at the cost of \$1.3 billion, in 2001 and 2002. The goal of the initiative was to reduce cocaine production in Colombia, Bolivia, Peru, and neighboring countries by increasing coca plant eradication, increasing drug interdiction, and preventing drug imports. Initial research on the effectiveness of the Andean Regional Initiative concluded that an overall “balloon effect” whereby suppressing coca production and cocaine exports in one area (namely Bolivia and Peru) predicted significant increases in coca production and exports in other areas (Rouse & Arce, 2006). Indeed, more recent reports have indicated that while drug trafficking originating in Colombia decreased dramatically from 2003 to 2008, there was a corresponding increase in drug trafficking originating in Venezuela, with rates exceeding the rates observed in Colombia (ONDCP, 2009). Furthermore, the cultivation of coca in Colombia increased through 2007. Data are not yet available from more recent Bush administration efforts to establish partnerships with Mexico and other Central American governments via the Merida Initiative, which was authorized by Congress at the cost of \$1.6 billion dollars from 2007–2010. A large portion of these funds was devoted to help the military of foreign governments enforce eradication and interdiction of illicit drugs. Yet, as noted by Rouse and Arce (2006) the U.S. government-funded attempts to eradicate illicit drugs completely ignore the incentives of cultivating and selling drugs for the people of Central and South America. Without sufficient economic and social investment in the individuals who are most likely to farm and distribute illicit drugs, then the “balloon effect” is likely to continue and drug supply will simply shift locations.

The Bush administration also funded initiatives to reduce supply of marijuana, opiates, methamphetamine, and other synthetic drugs via a counternarcotics strategy that focused primarily on eradicating the growth and synthesis of illicit drugs (as well as drug precursors), the interdiction of drugs brought into the United States, and enforcement of drug policies with strict criminal sanctions for possession and distribution of illicit drugs. Importantly, all of these efforts have resulted in a 12% increase in the National Drug Control Budget allocated to supply reduction, from 53% in 2001 to 65% in 2009 (Center for Substance Abuse Research, 2008).

In light of a consistent lack of progress on all three fronts of the drug control policy, the final analysis must be whether substance use was actu-

ally reduced during this time. In 2002 Bush set out as the 5-year goal a 25% reduction in current substance use in both adolescents ages 12–17 and adults age 18 or older. Evidence clearly indicates that neither goal has been achieved, nor was any significant progress made. According to the National Survey on Drug Use and Health, between 2002 and 2009, the percentage of Americans age 12 or older reporting alcohol use in the past 30 days remained unchanged at 51%, while the percentage of Americans age 12 or older reporting use of any illicit drugs in the past 30 days also held constant at 8%. In summary, although the Bush administration's strategy created unique and promising methods with which to deal with the substance use problem in America, its policies have been characterized more by failure and stagnation than by triumph.

The 2010 National Drug Control Strategy

On May 10, 2010, the Obama administration released the President's National Drug Control Strategy (ONDCP, 2010), which provided four principles that guide the strategy's approach to substance use disorders:

1. Substance use disorders exist on a continuum, and each point requires a unique response.
2. Addiction is a chronic disease.
3. Services for substance use disorder patients should be part of mainstream health care.
4. Recovery from addiction is a reality and should be celebrated.

Through all of these principles the Obama administration has taken a stance on the importance of prevention and treatment for substance use disorders and is the first administration to highlight supporting recovery and recovering Americans as part of the National Drug Control Strategy. The 2010 National Drug Control Strategy takes a balanced approach, acknowledging that “neither demand nor supply-side programs alone can get the job done” (p. 7). The goals of the strategy, which are to be attained by 2015, are to (1) curtail illicit drug consumption in the United States by decreasing the 30-day prevalence of drug use among 12- to 17-year-olds by 15% and the prevalence among young adults (ages 18–25) by 10%, as well as reduce the number of chronic drug users by 15%; and (2) to improve the public health and public safety of Americans by reducing drug-induced deaths and morbidity by 15%, as well as the prevalence of drugged driving by 10%. Strategies described in the 2010 plan include a focus on preventing drug use, seeking early intervention opportunities in health care, integrating treatment for substance use disorders into the health care system, and expanding support for recovery, breaking the cycle of drug use and incarceration, disrupting domestic trafficking and production, strengthen-

ing international partnerships for interdiction, and improving information systems for analysis, assessment, and local management.

To accomplish these goals the Obama administration requested \$15.1 billion in 2010, of which \$15 billion was enacted, and requested \$15.5 billion in 2011, a 3.5% increase in funding. Importantly, the Obama administration budget calls for a 13.4% increase in prevention funding and a 3.7% increase in treatment funding. The 2012 budget plan includes an additional 7.9% increase in funding for prevention, a 1.1% increase in funding for treatment, and a 17.6% decrease in international support (which is primarily due to the shift of financial responsibilities from the United States to international allies in Colombia, Mexico, and Afghanistan).

It is too soon to assess the effectiveness of the 2010 Drug Control Strategy of the Obama administration, although one change enacted during the first 2 years of Obama's presidency was a true victory for harm reduction and harm reduction advocates. On December 16, 2009, Obama signed a bill repealing the 21-year-old ban on federal financing for needle exchange programs. The public health field and harm reduction advocates had been arguing for many years that providing clean needles to injection drug users results in a significant reduction in the overall transmission of infectious diseases (including HIV and hepatitis), yet protestors of needle exchange argued that the government should not be funding programs that "enable" injection drug use. Allocating existing funds toward needle exchange programs was the immediate charge of the Centers for Disease Control and Prevention, and harm reduction advocates are hopeful that appropriations for needle exchange will be incorporated into the future budgets of the ONDCP.

SUPPLY REDUCTION, DEMAND REDUCTION, USE REDUCTION, AND HARM REDUCTION: THE COMMON GOAL OF SUPPLY-AND-DEMAND REDUCTION

Although the National Drug Control Strategy has evolved to become what appears to be a multicomponent, balanced strategy, its overwhelming emphasis has always been and continues to be reducing the *supply* of available drugs. In recent years, however, there has been growing acknowledgment that prevention and treatment efforts designed to reduce the *demand* for illegal drugs should constitute an integral component of drug control policy. Increasing investment in demand reduction efforts constitutes a welcome change for U.S. drug control policy. What many fail to recognize, however, is that "despite their disagreements, demand-side and supply-side advocates share a common allegiance to what might be called the *use reduction* paradigm. This is the view that the highest, if not exclusive, goal

of drug policy should be to reduce (and if possible, to eliminate) psychoactive drug use" (MacCoun, 1998, p. 1199).

The stated goal of the 1988 Anti-Drug Abuse Act was, after all, the "creation of a drug-free America."

A troublesome conclusion that emerges from our critique of contemporary drug control strategy is that the desired reductions in the prevalence of use have simply not been achieved. In fact, the data suggest that drug use among teens and adults has remained unchanged in recent years [SAMHSA, 2008]. Even more disturbing is the fact that the strengthened law enforcement and interdiction efforts constituting the primary focus of the current strategy are themselves a source of many drug-related problems, such as drug-prohibition-related crime". (Nadelmann, 1989, p. 941)

Distinguishing Use Reduction from Harm Reduction

The use reduction paradigm as it has been embodied in the National Drug Control Strategies consists of policies and interventions whose collective aim is to achieve total prohibition of illicit drugs. Thus, current prohibition policy is driven by a set of assumptions in which behavior is forbidden and infractions are subject to punishment; the objective is total suppression (Glaser, 1974, cited in Erikson, 1990). Such an objective requires the assumption that the criminal justice approach could conceivably result in the total suppression of drug use in U.S. society (i.e., the "creation of a drug-free America"). Other assumptions underlying the prohibitionist perspective are that drugs (and drug users) are essentially immoral; that psychoactive drugs are inherently dangerous; and that legal proscriptions on drug use are necessary to protect the well-being of users, the people around them, and society at large.

An alternative set of interventions, programs, and policies, collectively referred to as "harm reduction," has been advocated throughout this book. The harm reduction approach entails quite a different set of goals and assumptions. According to one commentator, these alternative approaches are, to varying degrees "based on the premise that the desire to alter consciousness is a normal human trait, a drive as deep as the need for food, shelter and love (Siegel, 1989; Weil, 1972)" (Aldrich, 1990, p. 547). Harm reduction advocates argue that this motivation to alter consciousness and subjective mood states has led people to use drugs for their psychoactive properties throughout recorded history. Despite the best efforts of those working in the criminal justice system, this inherent desire to alter consciousness also ensures that people will continue to use drugs in the future. Harm reduction proponents thus recognize the futility of trying to eliminate drug use entirely; they focus on identifying the best ways to minimize the harm that results from drug use, rather than on attempting

to eliminate it altogether. Other assumptions underlying the harm reduction perspective are that certain psychoactive drugs are relatively safe; that decisions to use drugs are not inherently immoral; and that drug users are not malicious criminals, but individuals with maladaptive habits in need of treatment.

Public health professionals have taken the lead in promoting harm reduction as an alternative to traditional drug policy approaches in the United States. Des Jarlais (1995), in an editorial for the *American Journal of Public Health*, has described harm reduction as consisting of the following working list of basic components:

1. Nonmedical use of psychoactive drugs is inevitable in any society that has access to such drugs. Drug policies cannot be based on a utopian belief that nonmedical drug use will be eliminated.
2. Nonmedical drug use will inevitably produce important social and individual harm. Drug policies cannot be based on a utopian belief that all drug users will always use drugs safely.
3. Drug policies must be pragmatic. They must be assessed on their actual consequences, not on whether they symbolically send the right, the wrong, or mixed messages.
4. Drug users are an integral part of the larger community. Protecting the health of the community as a whole therefore requires protecting the health of drug users, and this requires integrating the drug users within the community rather than attempting to isolate them from it.
5. Drug use leads to individual and social harms through many different mechanisms, so a wide range of interventions is needed to address these harms. These interventions include providing health care (including drug abuse treatment) to drug users; reducing the number of persons who are likely to begin using some drugs; and particularly, enabling users to switch to safer forms of drug use. It is not always necessary to reduce nonmedical drug use in order to reduce harms. The harm reduction perspective thus would be particularly amenable to using research findings. ... The harm reduction perspective emphasizes the need to base policy on research rather than on stereotypes of (legal and illegal) drug users. (pp. 10–11)

Of the wide variety of harm reduction interventions described throughout this volume, those that have received the highest level of support within recent National Drug Control Strategies are those interventions designed to reduce demand. This certainly makes sense, for strategies designed to reduce both supply and demand have as their primary objective achieving reductions in use, and use reduction remains the primary goal of U.S. drug control policy.

Demand Reduction as Harm Reduction

"The initial step [in the adoption of harm reduction strategies] is to reduce reliance on criminal justice measures against users and develop proactive, creative health promotion and protection strategies to achieve demand reduction ... [for] supply reduction will not work as long as demand is maintained" (Erikson, 1990, p. 567). Strategies designed to reduce demand can be thought of as the most effective subset of harm reduction strategies, for the least harm occurs when drugs are not used at all. For example, prevention efforts focused on discouraging drug use before it begins not only reduce but also eliminate the harm that can result from such use. Similarly, users who successfully complete a treatment program through which they are able to achieve and maintain abstinence have thus eliminated their demand for drugs and the resultant harm to themselves and their communities.

Efforts to delay or eliminate the onset of drug use are referred to as "primary" or "universal" prevention; such efforts typically focus on education as a means of maintaining abstinence. When drug use or experimentation has already begun but has not yet engendered significant problems for the user, educational efforts designed to eliminate or minimize the harm resulting from such use are referred to as "secondary" or "selective" prevention. If primary and secondary prevention efforts fail, and an individual's substance use becomes problematic, they typically receive substance abuse treatment, which is sometimes referred to as "tertiary" or "indicated" prevention (Institute of Medicine, 1994).

Most primary and secondary prevention programs (including the D.A.R.E. program) have been derived from the social influences model. The social influences model posits that adolescent substance abuse is initiated and maintained because of social influences, both direct (parents, peers) and indirect (the mass media) (Marlatt, Baer, & Quigley, 1995). Social inoculation theory (see Donaldson, Graham, Piccinin, & Hansen, 1995) recognizes that adolescents' decisions about whether to use alcohol or other drugs depends on their ability to resist these overwhelming social pressures. The goal of prevention programs developed under these models is to inoculate children against these untoward social influences.

Although advocates of the social influences and social inoculation models can certainly point to a few successes, such as the Minnesota Smoking Prevention Program (Luepker, Johnson, Murray, & Pechacek, 1983) and the Life Skills Training Program (Dusenbury, Botvin, & James-Ortiz, 1989), evaluations of the impact of resistance skills training programs such as D.A.R.E. have generally failed to show overall effects (e.g., Donaldson et al., 1995; Ennett et al., 1994). Future prevention programs must go beyond the confines of present theories by incorporating student input in program development.

The second modality of demand reduction that has been employed within the context of a larger policy of drug prohibition is substance abuse treatment. As the ONDCP (1997a) points out, “effective treatment programs can help individuals end dependence on addictive drugs, thereby reducing consumption. In addition, such programs can reduce indirectly the consequences of addictive drug use on the rest of society” (p. 54). A widely cited study conducted by the California Department of Alcohol and Drug Problems (Gerstein et al., 1994) estimated that the \$209 million spent on providing treatment for 150,000 individuals in 1991–1992 generated an estimated \$1.5 billion in savings—a 7:1 return on investment. The U.S. government’s 1996 Treatment Improvement Evaluation Study concurred with Gerstein and colleagues’ (1994) findings that treatment reduces drug use from 40 to 50%, that health improves after treatment, and that all types of treatment can be effective (Center for Substance Abuse Treatment, 1996).

It stands to reason, however, that treatment can only be effective for those drug users who are actually able to gain entrance to a treatment program. The ONDCP is cognizant of the barriers that present users from seeking treatment:

The willingness of chronic drug users to undergo treatment is influenced by the availability of treatment programs, affordability of services, access to publicly funded programs or medical coverage, personal motivation, family and employer support, and potential consequences of admitting a dependency problem. (ONDCP, 1997a, p. 56)

Under current policies, these “potential consequences” include arrest, incarceration, seizure of assets and property, loss of one’s job, or loss of child custody. Furthermore, “in many communities, the demand for help far exceeds treatment capacity. Being unable to enter treatment may discourage chronic users from maintaining a commitment to end chemical dependency” (ONDCP, 1997a, p. 56).

The goal of removing obstacles to treatment has been a part of the ONDCP’s drug control policy for many years. The main focus of these initiatives has traditionally been on increasing the number of available publicly funded treatment slots, although recently, with the implementation of the ATR program, the focus has shifted to include helping people afford recovery services. Although these initiatives would both certainly be welcome, supplying enough slots in traditional substance abuse treatment programs to meet demand and providing funding assistance is not enough. In the context of current public policy, even if free treatment on demand were available for every person who indicated that he or she wanted to stop using substances, many would stay away from treatment. Why? By the very nature of the fact that certain individuals have a “problem” with drugs, they are unable to maintain sobriety. Unfortunately, the U.S. treatment establishment perceives total abstinence as the only acceptable treat-

ment outcome; consequently, treatment centers routinely discharge clients who can't stop using, as well as those who resume use after a period of abstinence.

Substance abuse treatment in the United States is high-threshold not only because there are not enough slots available. It is high-threshold because it generally requires complete abstinence; typically employs aggressive and confrontational tactics; and, perhaps most important, operates within an official federal policy that treats users as criminals who have much to lose by presenting themselves for treatment (see Marlatt, 1996). Despite the progress that has been made toward developing treatment interventions that reduce the psychological barriers to treatment entry (Miller & Heather, 1998), substance abuse treatment in the United States continues to be high-threshold because the legal barriers caused by prohibitionist drug control policies remain in place.

In summary, prevention and treatment efforts designed to reduce demand for drugs are an important subset of harm reduction strategies. However, the harm reduction approach goes beyond efforts to decrease the prevalence of substance use by acknowledging the fact that some individuals will inevitably be unwilling or unable to reduce their levels of drug use. Under current U.S. policies, these individuals are marginalized and criminalized. If prevention and treatment strategies are unsuccessful for some subset of the population who cannot remain abstinent, then innovative harm reduction strategies, such as needle exchange, substance substitution, and changing the route of drug administration, can be employed to minimize the adverse effects of their use. Unfortunately, numerous obstacles must be overcome before harm reduction proponents will be able to bring about any fundamental change in U.S. drug control policy. Before we turn our attention to a discussion of current public debate surrounding the adoption of harm reduction strategies, however, a point of clarification is in order.

Harm Reduction Is Not Legalization

As Nadelman (1998) points out:

Most proponents of harm reduction do not favor legalization. They recognize that prohibition has failed to curtail drug abuse, that it is responsible for much of the crime, corruption, disease, and death associated with drugs, and that its costs mount every year. But they also see legalization as politically unwise and as risking increased drug use. (pp. 113–114)

Drug policy “alternatives are best understood not as polar opposites, but as a variety of points along a spectrum, with the most prohibitionist policies at one extreme, and the most libertarian ones at the other” (Nadelmann, 1992, p. 205). The harm reduction approach is compatible with a wide

range of policy options that lie on the spectrum between total legalization and total prohibition. This spectrum is represented graphically as the continuum of policy options in Figure 13.1.

By this point, the reader should be familiar with the policy option at the extreme right of Figure 13.1. This policy of “total prohibition” is currently the law of the land in the United States. The policy option at the extreme left of the figure, labeled “total legalization,” is the libertarian position that thoughts and conduct concerning the substances one chooses to ingest should be free from governmental control, interference, or restriction. Consequently, advocates of total legalization believe that all substances that are currently controlled by the government should be available on a completely unregulated free market.

Although supporters of prohibition policies sometimes act as if total legalization is the only alternative to prohibition, many policy options lie between these two extremes. In one class of policy options, drugs are legalized, but the government exercises varying degrees of control over the markets in which they are bought and sold. For example, in the “controlled availability” option (Chesher & Wodack, 1990), some or all controlled substances would be available through a government monopoly, outside of which criminal sanctions would be used to police drug sales. In this option, federal and state governments could regulate the sale and possession of illicit drugs in the same way they currently regulate alcohol and tobacco products.

Similarly, in the “medicalization” option, drugs would be made legal, but would only be available to drug-dependent users with a prescription from a medical practitioner. With medicalization, criminal justice sanctions would also be employed against those who buy or sell drugs outside official channels. The medicalization option was originally brought to the forefront of public consciousness when voters in the November 1996 elections passed initiatives making medicinal marijuana available in California and Arizona. In California, Proposition 215 required only an oral “doctor’s recommendation” for marijuana use by patients with AIDS, cancer,

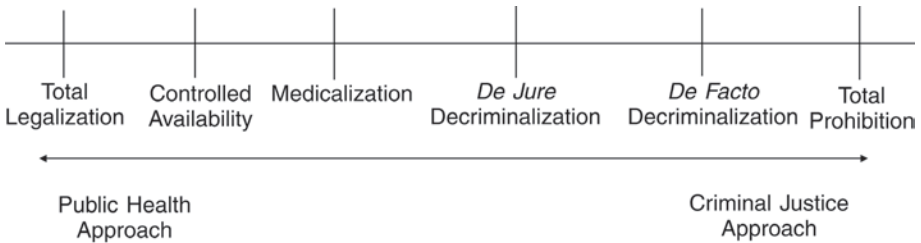


FIGURE 13.1. Spectrum of drug control policies.

glaucoma, or other illnesses (Pollan, 1997). In Arizona, Proposition 200 required a written prescription from two licensed physicians for medicinal marijuana and limited its availability to persons afflicted with the most serious illnesses; this proposition also mandated treatment and probation instead of incarceration for most people convicted of drug use and possession (Ferguson, 1997). Since 1996, many other state governments have passed legislation allowing the medical use of marijuana. Today, 16 states and the District of Columbia allow legitimate medical use of marijuana, although the protections afforded under each law vary significantly from state to state (Marijuana Policy Project, 2011).

In another class of policy options, known as “decriminalization,” the possession, use, and distribution of psychoactive substances would continue to be expressly forbidden by authority of law (i.e., drugs would remain illegal), but penalties for the violation of such laws would be reduced, eliminated, or selectively enforced “on condition that the quantity of the drug is below a defined level considered to be for personal use only” (Chesher & Wodack, 1990, p. 556). If the criminal penalties for drug law violations are officially reduced or eliminated via legislative action, the policy is referred to as “simple decriminalization” or “*de jure* decriminalization” (Bertrand, 1990). If criminal penalties remain on the books, but law enforcement agencies are allowed considerable discretion in deciding whether to enforce them (particularly the penalties applying to those substances deemed least addictive or offensive), the policy is referred to as “*de facto* decriminalization” (Bertrand, 1990). The Dutch have embraced this policy option and have used it in their attempt to “normalize” drug users without officially condoning their drug use. Hence “normalization” refers to a policy of *de facto* decriminalization.

To varying degrees, harm reduction interventions are compatible with every one of these policy options, including prohibition. For example, under a policy of medicalization, addicts would be able to reduce the risk of infection and overdose by having access to sterile injection equipment and drugs of known quality and purity. Furthermore, medicalization would bring addicts into contact with health and social resources that they might not otherwise avail themselves of. For example, the Swiss government conducted a 3-year nationwide trial of a medicalization scheme, wherein approximately 1,000 heroin addicts with at least two unsuccessful treatment attempts were given legal prescriptions to use heroin. In July 1997, the Swiss government reported that criminal offenses and the number of criminal offenders among study participants had dropped by 60%, that participants’ illegal heroin and cocaine use had declined dramatically, that their stable employment had increased from 14% to 32%, and that their physical health had improved dramatically (Nadelmann, 1998, p. 120).

Official drug control policies of decriminalization, both *de facto* and *de jure*, are also quite compatible with the harm reduction approach. In

Europe, harm reduction strategies such as needle exchange, condom distribution, street outreach, and the establishment of safe, sanitary “injection rooms” have been successfully pursued within the context of an official drug control policy of *de facto* decriminalization (see Nadelmann, 1998). Even in the context of the official U.S. policy of total prohibition, some harm reduction policies have taken root. For example, more than 260,000 Americans are currently enrolled in federally monitored methadone maintenance programs, up from only 115,000 in 1998 (SAMHSA, 2007). Likewise, jurisdictions in 16 states have decriminalized marijuana for nonmedical purposes. For example, in Oregon (the first state to decriminalize marijuana in 1972) possession of less than an ounce is currently a misdemeanor offense punishable by a maximum fine of \$1,000. Although the Obama administration has said firmly that federal decriminalization is off the table, they have also ended federal raids on growers of medical marijuana. It stands to reason that the further one moves away from the “total prohibition” end of the spectrum, the easier it is to implement strategies that are designed to reduce drug-related harm.

Now that we have clarified the relationship between harm reduction interventions and official drug control strategies, we turn our attention to the factors that may be preventing U.S. policymakers from implementing innovative, empirically validated interventions that successfully reduce drug-related harm. As a vehicle for this discussion, we explore the specific policies and attitudes that have prevented the widespread adoption of needle exchange programs in the United States.

Needle Exchange Programs: A Case Study in Resistance to Harm Reduction Policy

Over the past 20 years, even as illicit drug use and cases of HIV have risen, the U.S. government has aggressively resisted harm reduction (Kirp & Bayer, 1993; Reuter & MacCoun, 1995). For example, there are probably more than 1 million injection drug users in this country, and injection drug use accounts for about one-third of all AIDS cases in the United States. The United States has traditionally been opposed to needle exchange despite a considerable body of evidence demonstrated that needle exchange programs could bring about significant reductions in HIV transmission (Des Jarlais, Friedman, & Ward, 1993; Lurie & Reingold, 1993). Yet there are only 184 needle exchange programs currently operating in the United States (CDC, 2010).

Why does the United States have so few needle exchange programs in operation? Despite endorsement of such programs by the National Academy of Sciences and the Centers for Disease Control and Prevention, until recently, funding to needle exchange programs has been opposed by the federal government. Another barrier is that virtually every state govern-

ment has legislative barriers that prevent or limit the institution of such services (Tempalski, Friedman, Keem, Cooper, & Friedman, 2007). Only last year did the federal government reverse its position on needle exchange programs, with President Obama repealing the funding bans for needle exchange programs in 2010. The reasons for opposition to harm reduction policies in general, and needle exchange programs in particular, are many and varied (Reuter & MacCoun, 1995). In the following section, we evaluate a number of factors that may account for the resistance to harm reduction initiatives such as needle exchange.

A “Trojan Horse” for Legalization

Opponents of the harm reduction approach often contend that harm reduction is a “Trojan horse” for drug legalization. Two proponents of this view describe it as follows:

Although reducing the harm caused by drug use is a universal goal of all drug policies, policy proposals called “harm reduction” proposals include a creative renaming of the dismantling of legal restrictions against the use and sale of drugs. The essential components of legalization policies are couched within this concept. Much of the driving force behind the harm reduction movement also centers on personal choice and “safe” habits for drug use. ... What is needed today is not the dismantling of restrictive drug policies. Rather a strong national policy should seek to reduce the harm of drug use through harm prevention (for example, by creating drug-prevention programs) and harm elimination (by implementing broader interdiction and rehabilitation efforts). ... We do not need new experiments to tell us what we have already learned from legal alcohol and tobacco. Those experiments have already been done at the cost of great human suffering. (DuPont & Voth, 1995, p. 462)

These authors are mistaken in their assumption that harm reduction efforts are directed only at illicit drug use (Chapters 3 and 4 of this book describe harm reduction approaches to the use of two legal drugs, alcohol and tobacco) or only at substance use in general (Chapter 7 describes harm reduction programs applied to high-risk sexual behaviors and the prevention of HIV infection). They are also mistaken in equating harm reduction with drug legalization, since harm reduction initiatives have been successfully implemented under a wide range of existing drug control policies. They are most mistaken in their insistence that “we do not need new experiments to tell us what we have already learned” about the use of legal and illegal drugs. In the absence of such experimentation, critics are free to speculate on the harmful consequences of “relaxing” legal restrictions on drug use.

Fear of “Sending the Wrong Message”

Another argument, once voiced by former “drug czar” William Bennett and Governor Pete Wilson of California, is that needle exchange programs (as well as other harm reduction initiatives) somehow “send the wrong message”—in other words, that they encourage or increase illicit drug use or other illicit behaviors. The logic by which this process occurs “is rarely articulated in any detail, suggesting that for its proponents, the proposition is self-evident” (MacCoun, 1998).

In an insightful article on harm reduction, MacCoun (1998) explores the potential mechanisms by which the “wrong message” might be “sent.” One potential mechanism is what he refers to as the “*rhetorical mechanism*—the notion is that irrespective of their effectiveness in reducing harms, harm reduction programs literally communicate messages that encourage drug use. . . . Without intending to do so, harm reduction sends tacit messages that are construed as approval—or at least the absence of strong disapproval—of drug consumption” (p. 1202).

MacCoun points out that whether such rhetorical effects occur is an empirical question, and that without evidence concerning the kinds of unintended inferences that users and nonusers draw from harm reduction messages, this hypothesis is purely speculative.

A second possible mechanism that MacCoun elaborates on is the “compensatory behavior mechanism”—the hypothesis that “even if no one took harm reduction to imply government endorsement of drugs, harm reduction might still influence levels of drug use indirectly through its intended effect—that is, by reducing the riskiness of drug use.” The argument here is that public response to needle exchange programs and other harm reduction initiatives might be similar to drivers’ response to improvements in automobile safety and mandatory seat belt laws: They compensate by driving faster and more recklessly than they would have before (Chirinko & Harper, 1993). In other words, a reduction in the risk of injection might lead drug users to take fewer precautions than before, raising the probability of their unsafe conduct to a higher level. “In both domains, some of the safety gains brought about by a reduction in the probability of harm given unsafe conduct have been offset by increases in the probability of that conduct” (MacCoun, 1998). The available data, however, do not support the hypothesis of completely offsetting effects (Hughes, 1995; Stetzer & Hofman, 1996).

In summary, there is no empirical support for either a rhetorical or a compensatory behavior mechanism that could provide justification for policymakers’ fear that needle exchange programs or other harm reduction interventions “send the wrong message” and thus result in increased drug use and drug-related harm. Perhaps more important, there *does* exist

an impressive body of literature suggesting that needle exchanges do not increase illicit drug use (Lurie & Reingold, 1993; Watters, Estilo, Clark, & Lorvick, 1994; see also Andrasik & Lostutter, Chapter 7, this volume).

However, as MacCoun (1998) is quick to point out, “the empirical success record for needle exchange does not constitute blanket support for the harm reduction movement. Each intervention must be assessed empirically on its own terms.”

Politics and Public Opinion

Supply reduction strategies resulting in the seizure of a boatload of cocaine, or a decrease in “drug-related” crime due to strengthened domestic law enforcement, are immediate and easily publicizable substantiations of a politician’s promise to “get tough on drugs.” The payoff from demand reduction strategies, such as increasing the number of available treatment slots or improving the effectiveness of prevention programs, is generally more long term and less glamorous.

As those familiar with politics will readily attest, public opinion is a fickle creature that does not always follow the dictates of logic and reason. This is certainly true of public opinion concerning drug control policy. Research on human decision making suggests a number of ways in which such public opinion could be influenced by factors other than objective data. For example, researchers investigating judgment and decision making have found that people often “judge the probability of an uncertain event by the degree to which it is similar in essential properties to its parent population” (Kahneman & Tversky, 1972, p. 431). In the drug policy arena, the operation of this “representativeness heuristic” may help the public and their elected representatives

justify harsh policies on the basis of a mental model that fails to differentiate drug use from abuse. Their mental image of a drug user is that of a formerly productive citizen inevitably driven to illness, financial ruin and criminality. Each new instance that fits the model reinforces the stereotype and the general conclusion, irrespective of the actual proportion of users that end up in this sorry state. (Beyerstein & Hadaway, 1990, p. 691)

Another psychological factor that may adversely influence public opinion about drug policy is the “availability heuristic.” This heuristic is a mental rule of thumb according to which people’s estimates of the probability of an event’s occurrence are influenced by the ease with which examples come to mind (Tversky & Kahneman, 1974). “Thus, voters are more likely to become agitated about the dangers of relatively rare events such as drug overdoses, but more complacent about the far greater toll exacted by preventable illnesses or traffic fatalities” (Beyerstein & Hadaway, 1990,

p. 692). The reason is that instances of the former readily spring to mind as a result of media exposure, while instances of the latter do not.

Conservatism and Morality

Many reasons for opposition to harm reduction policies are based on what MacCoun refers to as “consequentialist” grounds. “They are characterized primarily by the belief that harm reduction will be counterproductive, either by failing to reduce average harm, or by increasing drug use enough to increase total harm” (MacCoun, 1998). Other grounds for opposing needle exchange or other harm reduction initiatives are what MacCoun calls “symbolic.” The moral and political climate in the United States for at least the past decade could fairly be described as conservative. Along with conservative attitudes comes a general antagonism toward users of “hard drugs,” partly stemming from the strong association between drugs and crime. Furthermore, many conservatives view addiction as a voluntary state, and consequently feel that drug users do not deserve help because they “did it to themselves.” Finally, conservative Americans cling tightly to the notion that drug abuse is “bad”—a transgression against social rules that is deserving of punishment. Consequently, they are led to prefer a criminal justice rather than a public health approach to drug control policy.

CONCLUSION

The consensus among policymakers is that the problem of “denial,” with respect to an individual’s willful ignorance of the problems related to substance use, must be broken by challenging it, as President George W. Bush put it, “honestly and directly” (ONDCP, 2002). We, too, believe that there is a problem of denial in this country. However, we suggest that the denial lay not with those individuals struggling with substance dependence, but with our nation’s response to substance use and those who use substances. With this in mind, let us attempt to honestly and directly challenge the true problem of denial in the United States.

What must be undeniably evident from our critique of the United States’ drug-control policies of the past two decades is that they have been wholly ineffective and often counterproductive. The most troubling conclusion that one can draw is that the failure of the United States government to properly and compassionately respond to the problems related to substance use and dependence has been wasteful and foolhardy. The leaders of the United States have been armed with the knowledge and tools necessary to reduce the harms caused by substance use for years, but have stubbornly failed to utilize them in favor of enacting and maintaining policies that resonate with the conservative, moralistic sentiments of voters, but that are

nonetheless ineffective and harmful toward individuals, families, and communities. Moreover, the arguments against a harm reduction approach, to which its opponents so fervently cling, are based on false assumptions and faulty logic and are without empirical grounding, while evidence for the benefits of the harm reduction approach continue to mount both in the United States and abroad.

More than a decade ago, we wrote in the first edition of this work that the United States was at a crossroads regarding substance use and government response to this public health crisis. Unfortunately, rather than changing course, the federal government has largely continued to pursue the same antiquated policies that have wasted millions of dollars, marginalized our citizens, facilitated the spread of disease, and blocked countless individuals from seeking and receiving the services they so desperately need. Thus, we stand now at the same place we have been since long before the first edition of this book. Can we finally learn from our missteps and begin the difficult process of enacting national drug policies that can effectively and compassionately deal with substance-related problems? Or shall we continue to neglect a compassionate and effective approach toward healing those in need because of a failing campaign against drugs that appeases public sentiment? Though the process of making such drastic changes will no doubt be complex and difficult, our responsibility to those in need compels us to do nothing less.

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