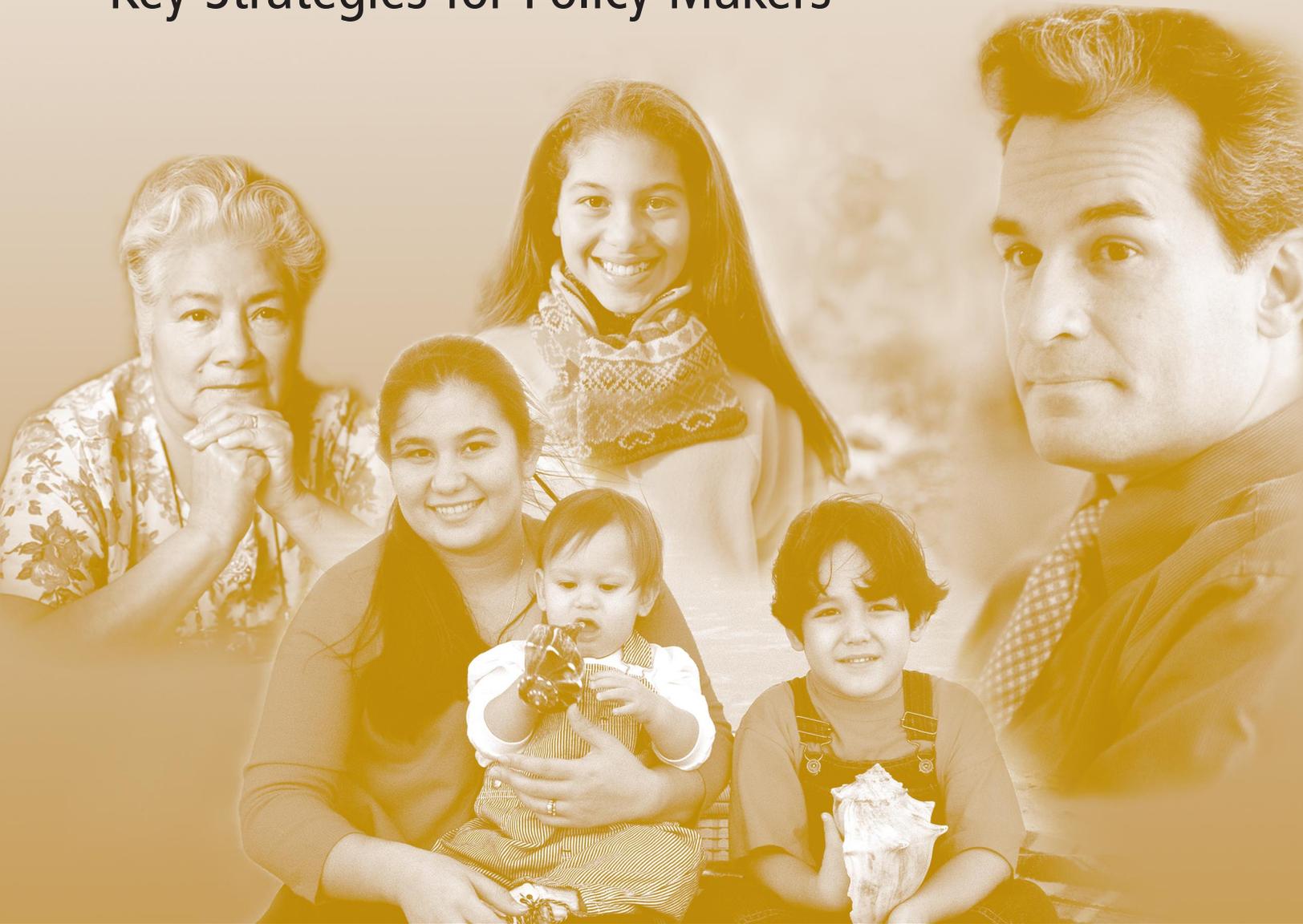


Improving Research on Hispanic Drug Abuse: Key Strategies for Policy Makers



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and Lisa Cacari-Stone, Ph.D.



NATIONAL
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A growing body of research provides compelling evidence that illicit drug abuse is a problem for the nation and is affecting the largest and fastest growing ethnic population in the United States: Hispanics.^{1,2} A new coordinated research agenda on drug use among Hispanics is needed and a new strategic course of action is required to combat this health crisis. Research on drug abuse in Hispanics is the best way of informing policy makers on the most promising strategies to use limited public resources. This policy brief provides an overview of drug abuse in Hispanics, the costs and consequences associated with drug abuse, and research areas that require attention. Based on the recommendations of the *National Hispanic Science Network on Drug Abuse's National Strategic Plan on Hispanic Drug Abuse Research: From the Molecule to the Community*, funded by the Robert Wood Johnson Foundation,¹ four areas are targeted for meeting future health care needs of Hispanics: neuroscience, prevention, treatment, and training/mentorship.

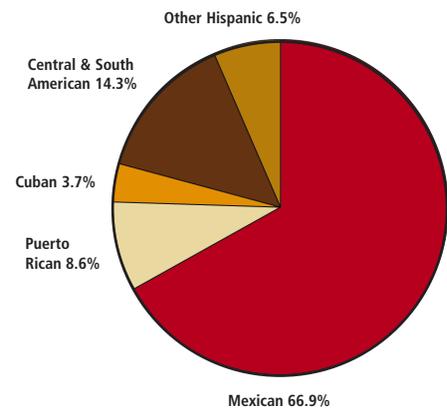
OVERVIEW: THE CONTEXT OF HISPANIC DRUG ABUSE

Hispanics are the fastest growing minority group in the United States.

In 2004, the Hispanic population in the continental U.S. reached 41.3 million. In addition, another close to four million Hispanics reside in Puerto Rico. Comprising over 14% of the total population, Hispanics accounted for about one-half of the national population growth of 2.9 million between July 2003 and July 2004.³ By 2050, Hispanics will constitute 25% of all residents in the mainland United States. Drug abuse concerns facing Hispanics are complicated by *demographic trends, low economic status, lack of access to health care and environmental risk factors.*

Demographic trends and characteristics of the Hispanic population (i.e., young and disproportionately affected by stress, poverty, discrimination, and lack of access to preventive services) suggest that the rate of drug use is likely to increase over time. The Hispanic population is younger than the non-Hispanic White population, with one-third of Hispanics under the age of 18.⁴ This demographic trend is relevant because the initiation and development of drug abuse problems primarily occur between the ages of ten and twenty years.⁵ Findings from the 2004 Monitoring the Future⁶ (MTF) study reveal that 12th grade Hispanic students reported the highest rate of use for some drugs: crack, heroin, heroin with a needle, methamphetamines, and Rohypnol. Hispanic 8th grade

Figure 1: Percent Distribution of Hispanics by Type (2002 Census)⁴



¹ Amaro, H. & Cortés, D.E. (2003). *National Strategic Plan on Hispanic Drug Abuse Research: From the molecule to the community*. Funded by The Robert Wood Johnson Foundation.

² Amaro, H. & Iguchi, M. (in press). Drug Abuse Among Hispanics in the United States: A Critical Review and Opportunities for Research. *Drug Abuse and Dependence*.

³ U.S. Census Bureau; *Hispanic Population Passes 40 Million*, *Census Bureau Reports*. Accessed on June 2005. Available at: <http://www.census.gov/Press-Release/www/releases/archives/population/005164.html>

⁴ U.S. Census Bureau; *Current Population Survey PGP-5*, Published March 2002.

⁵ Canino, G., De La Rosa, M., Turner, J., Valdez, A., Vega, W.A., & Warner, L.A. (2003). Epidemiology of drug abuse among Hispanics in the United States. In *National Strategic Plan on Hispanic Drug Abuse Research: From the molecule to the community*. H. Amaro & D.E. Cortés, (Eds.), (pp. 25-42).

⁶ Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2005). *Monitoring the Future national results on adolescent drug use: Overview of key findings, 2004*. (NIH Publication No. 05-5726). Bethesda, MD: National Institute on Drug Abuse.

students came out highest compared to Blacks and Whites on nearly all classes of drugs (amphetamines being the major exception). Figure 2 shows trends during 1991-2002 of marijuana and cocaine use during the past year for Hispanic 8th graders compared to the total MTF sample. Although all groups have shown a decline in use of marijuana and cocaine in the past year, most Hispanic groups report higher rates of marijuana use than Whites. The higher rates of illicit drug use among younger Hispanic students is a serious public health problem because younger age of initiation has been associated with greater risk of serious drug abuse related problems and addiction.⁵

Another unique feature of Hispanic populations is the wide range of immigration and acculturation experiences. There are differences in cultural traditions, immigration history, family composition and socioeconomic status. People of Mexican origin comprise 66.9% of the U.S. Hispanic population, followed by 14.3% Central and South American, 8.6% Puerto Rican, and 3.7% Cuban (Figure 1). Migration plays a significant role in determining variation in drug use and abuse among Hispanic subgroups. For example, U.S.-born Hispanics have much higher rates of drug abuse problems than immigrant Hispanics.⁷ At the same time, as immigrant youth are adapting to the U.S. culture, prevention efforts are critical to retain their traditionally lower use of drugs. The much higher vulnerability to drug abuse or dependence of U.S.-born Hispanics and foreign-born Hispanics who arrived in the U.S. as children has important implications due to the demographic structure of the Hispanic population.⁸ Specifically, with 40% of the population under 21 years, which is the age range of peak onset for drug experimentation and progression, and the documented role of acculturation on increasing drug use in this age group, there is a critical need for research on strategies to intercept

initiation and progression of drug use in this vulnerable Hispanic population.⁹

The *economic status* of the Hispanic population is lower than that of non-Hispanic Whites. In 2002, three times as many Hispanics (21.4%) were living in poverty.¹⁰ The fact that Hispanics' income has been pervasively low over time is of great concern because persistent poverty has been found to be linked to drug use and abuse.⁵

Hispanics use fewer health care services, are less likely than non-Hispanic Whites to enter the health system for any type of care, are less likely to be offered employer-sponsored health insurance, and are *more likely to be uninsured* than non-Hispanic Whites.¹¹ In 2003, *Hispanics had the highest rate of uninsured individuals in the U.S.*, at 34% compared to 13% among Whites, and 21% among Blacks.¹² Despite the fact that 9 out of 11 million uninsured Hispanics are part of working families, Hispanics are less likely to be offered employer-sponsored health insurance and to be insured compared to non-Hispanic Whites, limiting their financial access to health care.¹³ Hispanics' lack of health insurance (see Figure 3) is very relevant to drug use issues because it directly impacts their access to drug treatment as well as to early detection of these problems through primary health care.

THE COSTS AND CONSEQUENCES OF DRUG ABUSE

*Drug abuse has economic and social costs because it contributes to the premature death and ill health of millions of Americans every year and to the high cost of health care.*¹⁴ Further, drug abuse costs society loss of productivity, places demands on health care, and other adverse consequences (e.g., criminal justice and child welfare systems). From 1992 to 2002, the overall cost of

⁷ Gil, A.G., Wagner, E.F., & Vega, W.A. (2000). Acculturation, familism and alcohol use among Latino adolescent males: Longitudinal relations. *Journal of Community Psychology*, 28, 443-458.

⁸ Vega, W.A., Sribney, W.M., Aguilar-Gaxiola, S., Kolody, B. (2004) 12-month prevalence of DSM III-R psychiatric disorders among Mexican Americans: Nativity, social assimilation, and age determinants. *Journal of Nervous and Mental Disease*, 192, 532-541.

⁹ Vega, W.A., Aguilar-Gaxiola, S., Andrade, L., Bijl, R., Borges, G., Caraveo-Anduaga, J.J., DeWit, D.J., Herringa, S., Kessler, R.C., Kolody, B., Merikangas, K.R., Molnar, B.E., Walters, E.E., Warner, L.A., & Wittchen, H.U. (2002). Prevalence and age of onset for drug use in seven international sites: Results from the International Consortium of Psychiatric Epidemiology. *Drug and Alcohol Dependence*, 68, 285-297.

¹⁰ Ramirez, R., & De la Cruz, P. (2002) *The Hispanic Population in the United States: March 2002*, Current Population Reports, P20-545, U.S. Census Bureau, Washington DC. Available at: <http://www.census.gov/prod/2003pubs/p20-545.pdf>

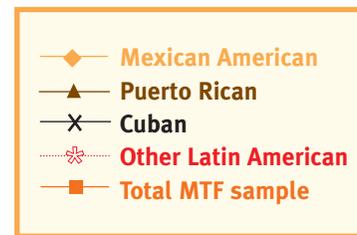
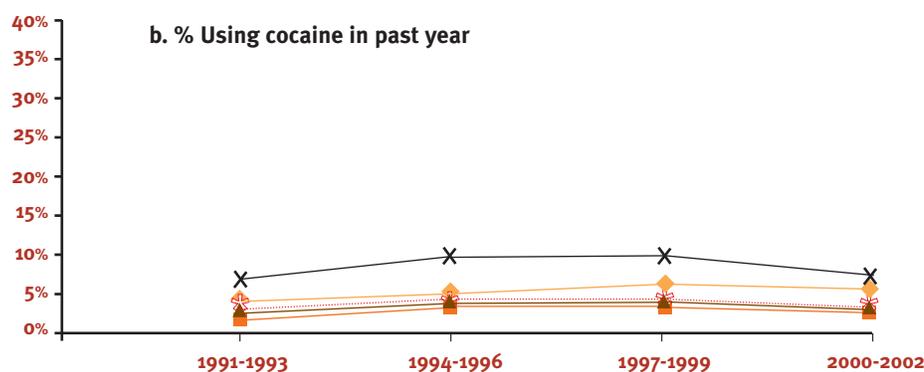
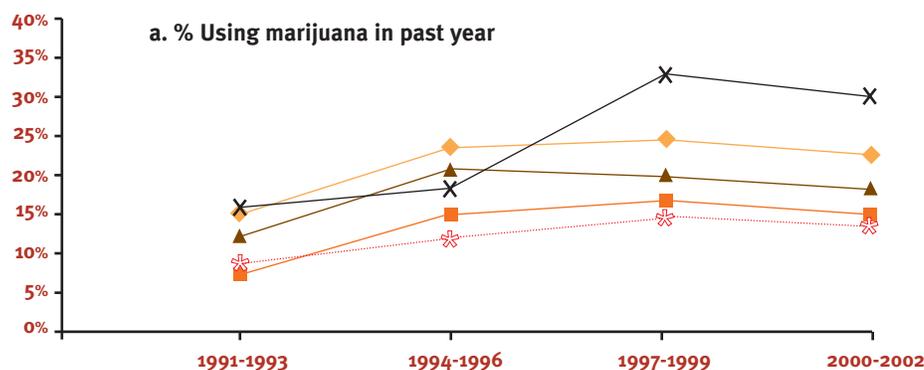
¹¹ Weinick, R., Jacobs, E., Cacari Stone, L., Ortega, A. & Burstin, H. (2004). Challenging the Myth of Monolithic Hispanic Ethnicity in Health Services Research. *Medical care*, 42 (4), 313-320.

¹² Based on pooled March 2003 and 2004 Current Population Surveys.

¹³ Quinn, K. (2000). *Working Without Benefits: The Health Insurance Crisis Confronting Hispanic Americans*. The Commonwealth Fund. Available at: http://www.cmwf.org/usr_doc/quinn_wobenefits_370.pdf

¹⁴ Robert Wood Johnson Foundation [RWJF]. (2001). *Substance Abuse: The Nation's Number One Health Problem. Key Indicators for Policy*. February 2001 update. Waltham, MA: The Schneider Institute for Health Policy, Brandeis University.

Figure 2: Drug use among Hispanic eighth-grade students:
 (a) Past-year marijuana use, (b) past-year cocaine use



Source: Delva et al. (2005). The epidemiology of alcohol, marijuana, and cocaine use among Mexican American, Puerto Rican, Cuban American, and other Latin American eighth-grade students in the United States: 1991-2002. *Am J Public Health*, 95, 696-702.

drug abuse to society increased an average of \$5.3 billion annually. From \$107.5 billion in 1992 to \$180.8 billion in 2002¹⁵ (Figure 4). In 2002, health care costs due to drug abuse were estimated to be \$15.8 billion, productivity losses at \$128.6 billion, and other costs at \$36.4 billion.

Adverse social, behavioral and health consequences (drug-related emergency room visits, drug-related deaths, and intentional and unintentional injuries) are associated with drug abuse. According to the Substance Abuse and Mental Health Services Administration’s (SAMHSA) Drug Abuse Warning Network (DAWN) 670,307 drug-abuse-related hospital emergency department visits were registered in the continental United States in 2002.¹⁶ It is estimated that for the third

and fourth quarters of 2003, drug users made a total of 627,923 drug-related emergency room visits.¹⁷ In addition, drug-related deaths more than doubled since the early 1980s from 7,100 to 15,973 by 1997.¹⁶ They have continued to increase and in 2000, 17,000 deaths were attributed to illicit drug use.¹⁸

Hispanics have exhibited a steady increase in addiction treatment admissions since 1992. Whereas admissions by Whites decreased by 1.6% from 1992 to 2000, admissions by Hispanics increased 18.2% in that same period.¹⁹ At least half of adults arrested for major crimes—including homicide, theft, and assault—tested positive for drugs at the time of their arrest. Among those convicted of violent crimes, approximately half of state prison inmates and 40%

¹⁵ The Office of National Drug Control Policy (ONDCP) & the Lewin Group. *Economic Costs of Drug Abuse in the United States, 1992-2002* (2004). Retrieved June 2005 from: http://nicic.org/Misc/URLShell.aspx?SRC=Catalog&REF=http://nicic.org/Library/020515&ID=020515&TYPE=PDF&URL=http://www.whitehousedrugpolicy.gov/publications/economic_costs

¹⁶ Substance Abuse and Mental Health Services Administration [SAMHSA] (2003). *Rise in Drug-Abuse-Related Narcotic Pain Medications Seen in Emergency Rooms*. Available at: http://alt.samhsa.gov/samhsa_news/VolumeXI_3/article3.html

¹⁷ Substance Abuse and Mental Health Services Administration, Office of Applied Studies. *Drug Abuse Warning Network, 2003: Interim National Estimates of Drug-Related Emergency Department Visits*. DAWN Series D-26, DHHS Publication No. (SMA) 04-3972. Rockville, MD 2004.

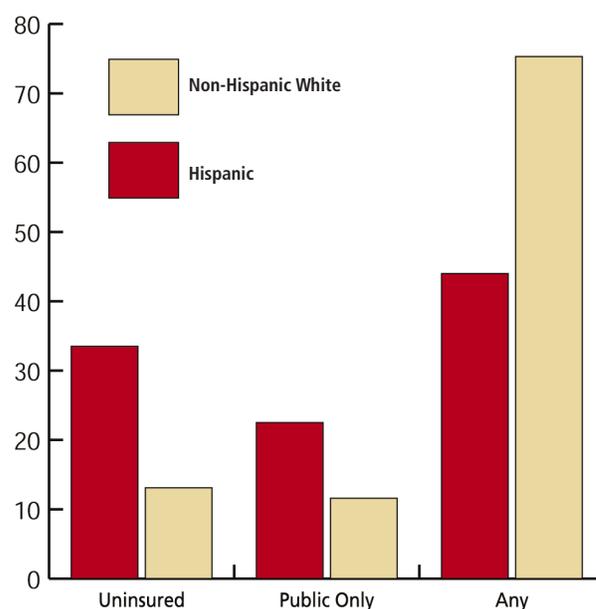
¹⁸ Mokhad, A.H., Marks, J.S., Stroup, D.F., & Gerberding, J.L. (2004). Actual causes of death in the United States, 2000. *Journal of the American Medical Association*, 291(10), 1238-1245.

¹⁹ Substance Abuse and Mental Health Services Administration. Office of Applied Studies. Drug and Alcohol Services Information System. Table 2.8b. *Admissions by sex, race/ethnicity, and age: TEDS 1992-2000 and U.S. population 2000. Percent distribution*. Available at: <http://www.dasis.samhsa.gov/teds00/2.8b.htm>

of federal prisoners had been drinking or taking drugs at the time of their offense. Compared to their representation in the general population, Hispanics are overrepresented in state and federal prisons. In 2000, Hispanics constituted 43.4% of all federal drug offenders. As a group, Hispanics in federal prisons were the most likely to be convicted of a drug offense.²⁰ There are no estimates of how many Hispanics convicted of drug offenses need treatment. While not all drug offenders are in need of substance abuse treatment, it is highly likely that a significant number are in need of treatment. Research is needed on the scope of this problem and the specific treatment needs of incarcerated Hispanics.

Demographic trends coupled with increased costs and consequences associated with drug abuse (i.e., drug-related deaths, intentional and unintentional injuries, family violence, increased health care costs, school drop-out rates, and crime) call for increased attention from policy makers to identify and curb this growing drug abuse problem in the Hispanic population. There is evidence suggesting that Hispanics are experiencing negative consequences from drug use at a higher level than other groups such as non-Hispanic Whites.²¹ Yet existing prevention and treatment services rarely provide targeted attention to the needs of the Hispanic population.^{1,2} For example, prevention and treatment services usually do not address important factors contributing to the low levels of services use among Hispanics. Some of these factors are lack of health insurance coverage, language barriers, discrimination, and limited familiarity with service structures, as well as cultural norms that might work against seeking much needed services. Thus, outreach efforts need to be tailored to address these barriers. In addition, a critical factor contributing to the lack of drug use prevention and treatment services among Hispanics is the lack of scientific evidence on what works in prevention and treatment for this population. Thus, studies are needed to determine the most efficacious and cost-effective approaches. Research in these areas can provide the scientific foundation needed to inform policy makers on the best ways to use limited public resources to reduce drug use and diminish the adverse effects of drug abuse.

Figure 3: Health Insurance Coverage¹²



GAPS IN HISPANIC DRUG ABUSE RESEARCH

NEUROSCIENCE AND BIOLOGY

Increasing evidence indicates that biological differences among different ethnic and racial groups may affect the onset, progression, and outcome of drug abuse. However, few studies to date have specifically addressed the neurobiology of drug abuse and addiction among Hispanics. Animal studies show a clear role of the environment on brain function and drug addiction. Therefore, research on the role of social status on brain functioning among humans could be very informative in elucidating brain-environment interactions among Hispanics.²² For example, environmental factors affecting Hispanics, such as lower social role, may make them more vulnerable to addiction by inducing biological changes in the brain.

There is a *serious lack of published studies* on the biological factors that affect efficacy of medications in treating substance abuse disorders among Hispanics.²³ The absence of medication efficacy studies that include

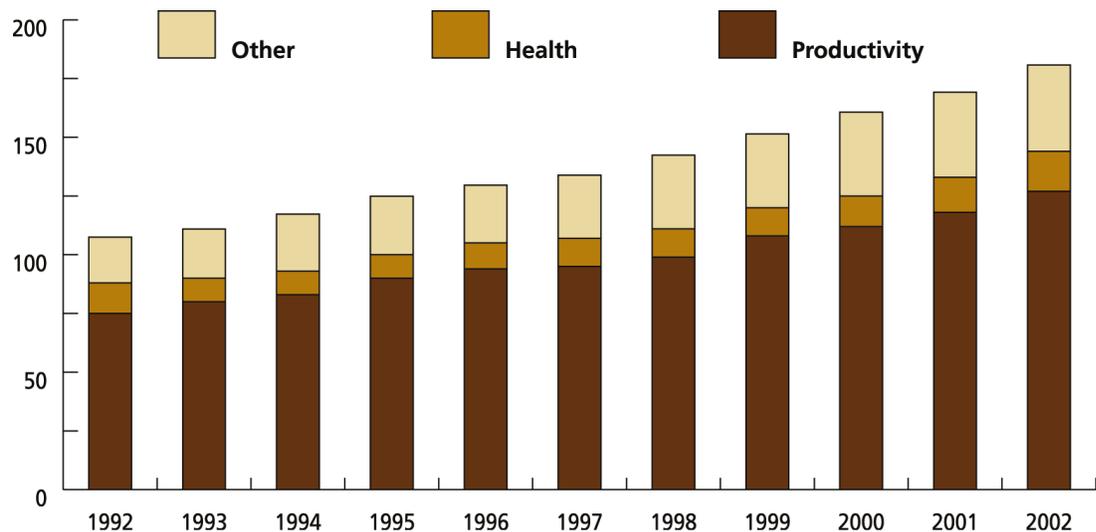
²⁰ National Council of la Raza. *Testimony on Drug Sentencing and its Effects on the Latino Community*. Presented by Charles Kamasaki, Senior VP, NCLR, February 25, 2002.

²¹ Gil, A.G., & Vega, W.A. (2001). Latino drug use: Scope, risk factors and reduction strategies. In M. Aguirre-Molina, C. W. Molina, & R. E. Zambrana (Eds.). *Health Issues in the Latino Community*. San Francisco, CA: Jossey-Bass.

²² Morgan, D., Grant, K.A., Gage, H.D., Mach, R.H., Kaplan, J.R., Prioleau, O., Nader, S.H., Buchheimer, N., Ehrenkauf, R., & Nader, M.A. (2002). Social dominance in monkeys: Dopamine D2 receptors and cocaine self-administration. *Nature Neuroscience*, 5, 169-174.

²³ Trujillo, K.A., Castañeda, E., Martínez, D., & González, G. (in press). Biological Research on Drug Abuse and Addiction in Hispanics: Current Status and Future Directions. *Drug Abuse and Dependence*.

Figure 4: Overall Cost of Drug Abuse, 1992-2002¹⁵ (in billions of dollars)



Hispanics in their samples appear to be a byproduct of study designs with overly stringent inclusion and exclusion criteria, compounded by participants’ overall mistrust of research institutions and low literacy levels.²⁴ However, current evidence suggests that psychopharmacological addiction treatment in Hispanics may need to consider biological differences between Hispanics and other populations. Therefore, there is great need for research on biological factors that influence both addiction and treatment for addiction among Hispanics.²⁵

PREVENTION

DRUG ABUSE PREVENTION. To date, there is limited scientific evidence regarding the efficacy and effectiveness of drug abuse prevention interventions within Hispanic populations. Most available school- and community-based studies incorporate Hispanic youth as part of a larger multiethnic sample of convenience. Therefore, studies offer scant information specific to Hispanics. To date, only a *few randomized controlled studies* have been conducted, and these limits in the scientific evidence hamper any valid or realistic evaluation of the effectiveness of prevention interventions among Hispanic youth.²⁶ Moreover, most drug abuse prevention studies in the

general population focus on school-based populations, but these fail to reach school drop-outs—a problem that is more prevalent among Hispanics than any other major ethnic group. Randomized controlled community prevention intervention studies are needed to examine the effects of culturally-tailored prevention interventions in comparison with the original or standard prevention intervention.

HIV/AIDS PREVENTION. According to the Centers for Disease Control and Prevention, most Hispanic men (adults and adolescents) are exposed to HIV through sexual contact with other men (60%), followed by injection drug use (19%) and heterosexual contact (14%). In contrast, most Hispanic women are primarily exposed to HIV through heterosexual contact, including sexual contact with drug users (75%), followed by injection drug use (23%).²⁷ Hispanics also exhibit more negative attitudes toward safer sex practice, particularly those less acculturated who show the most negative attitudes.²⁸ Hispanic youth are the largest proportion of individuals engaged in unprotected sex (a major risk for HIV infection) during last intercourse compared to both non-Hispanic Whites and Blacks; yet, there are no published, empirically validated HIV

²⁴ Taylor R. E. (2003) Pharmacological and cultural considerations in alcohol treatment clinical trials: issues in clinical research related to race and ethnicity. *Alcoholism: Clinical & Experimental Research*, 27, 1345-1348.
²⁵ Trujillo, K.A., Castañeda, E., Martínez, D., Thompson, K., & González, G. (2003). Neuroscience research on Hispanic Drug Abuse. In *National Strategic Plan on Hispanic Drug Abuse Research: From the molecule to the community*. H. Amaro & D.E. Cortés, (Eds.), (pp. 43-66).
²⁶ Castro, F.G., Barrera, M., Pantin, H., López, C., Martínez, C.R., Félix-Ortiz, M., & Newcomb, M. (2003). *Prevention research with Hispanic Populations*. In *National Strategic Plan on Hispanic Drug Abuse Research: From the molecule to the community*. H. Amaro & D.E. Cortés, (Eds.), (pp. 67-90).
²⁷ Centers for Disease Control and Prevention [CDC]. (2003). HIV/AIDS Surveillance Report. Available at <http://www.cdc.gov/hiv/stats/2003SurveillanceReport.htm>.
²⁸ Pattatucci-Aragón, A.M., Clatts, M.C., Raj, A., Miguez-Burbano, M.J., Soto, T., Shor-Posner, G., & Amaro, H. (2003). HIV/AIDS prevention and intervention research. In *National Strategic Plan on Hispanic Drug Abuse Research: From the molecule to the community*. H. Amaro & D.E. Cortés, (Eds.), (pp. 143-166).earch with Hispanic Populations. In *National Strategic Plan on Hispanic Drug Abuse Research: From the molecule to the community*. H. Amaro & D.E. Cortés, (Eds.), (pp. 67-90).

preventive interventions for Hispanic youth.²⁹ *Existing studies fall short of identifying underlying personal and situational factors that drive these attitudes and lead to risky behavior.*

Much of the existing research on drug use and sexual risk has not been specific to Hispanics. Those studies where Hispanics have constituted varying proportions of larger samples have shown that drug use is associated with sexual risk. However, existing studies are not comprehensive in the nature and processes underlying the link between drug use

and sexual risk specifically among Hispanics. A concomitant gap in research is the area of prevention. Most previous studies of HIV-prevention interventions do not employ specific approaches for Hispanics.³⁰ It is in the light of this gap that the Centers for Disease Control and Prevention

There is a pressing need for research on effective HIV prevention intervention on Hispanics.

has funded research designed to address sociocultural, structural, psychological, and behavioral factors in minority health and HIV. However, a pressing need for research on effective HIV prevention interventions focusing specifically on Hispanics still exists.

TREATMENT

Overall, there are scant evidence-based research studies on substance abuse treatment for Hispanics and, of these, very few employed randomized controlled trials.³¹ The area of drug abuse treatment among Hispanics is probably the most understudied in drug abuse research. With the exception of Hispanic adolescents, controlled randomized studies on the efficacy of drug abuse treatment for Hispanic adults, females and males, incarcerated populations, and the elderly are virtually nonexistent.

BEHAVIORAL TREATMENT. For Hispanic drug abusing adolescents, family-based treatments have been found to be efficacious.^{31,32} Additional research is needed in this area to determine if such family-based treatments are effective in community-based service agencies; to identify strategies to disseminate these approaches throughout the service delivery system; and to evaluate approaches across Hispanic subgroups.

Drug abuse in Hispanic females is now increasing rapidly among U.S.-born Hispanic girls and young women.⁵ Previous studies have found that individually both gender and ethnic/cultural background impact access and use of treatment services, barriers to treatment and treatment outcomes.³² Once in treatment, Hispanic women with co-occurring addiction, trauma, and mental health problems have more severe symptomatology than Black women and are less likely to be prescribed medications for such problems than non-Hispanic women despite similar levels of clinical symptoms and health insurance status.³³ However, there is not one single randomized study of treatment efficacy among Hispanic women or girls. For these reasons, studies that explore the factors impacting drug treatment access, utilization and outcomes among Hispanic girls and women are important. The increase of drug abuse among Hispanic women puts them at elevated risk for losing custody of children as well as being arrested and incarcerated due to drug-related activities. Among women in treatment for any abuse, the rate of involvement with the criminal justice system is highest among Hispanic women compared to non-Hispanics.^{33,34} In fact, Hispanic women are three times more likely than non-Hispanic White women to be incarcerated during their lifetime.³⁵ This creates a need for treatment programs for Hispanic women within the criminal justice system as well as within community settings.³¹ Despite the prevalence of drug use among Hispanic women and suggestive findings that culturally-tailored programs may be more effective for Hispanic women,³⁶ no controlled studies exist on the best approaches for treatment of this population and most treatment services

²⁹ Pantín, H., Prado, G., Schwartz, S.J., & Sullivan, S. (2005). Methodological challenges in designing efficacious drug abuse and HIV preventive interventions for Hispanic adolescent subgroups. *Journal of Urban Health*, 82(2 Suppl 3), iii92-iii102.

³⁰ Amaro, H., Vega, R., & Valencia, D. (2001). Gender, context, and HIV risk among Latinos. In M. Aguirre-Molina, C. W. Molina, & R. E. Zambrana (Eds.), *Health Issues in the Latino Community*. San Francisco, CA: Jossey-Bass.

³¹ Szapocznik, J., Amaro, H., González, G., Schwartz, S.J., Castro, F.G., Bernal, G., Mora, J., & Navarro, A. (2003). Drug abuse treatment for Hispanics. In *National Strategic Plan on Hispanic Drug Abuse Research: From the molecule to the community*. H. Amaro & D.E. Cortés, (Eds.), (pp. 91-117).

³² Szapocznik, J., Amaro, H., Schwartz, S.J., & González, G. (in press). Drug abuse treatment for Hispanics. *Drug Abuse and Dependence*.

³³ Amaro, H., Gampbel, J., Larson, M.J., Lopez, L., Richardson, R., Savage, A., & Wagner, D. (2005). Racial/ethnic differences in social vulnerability among women with co-occurring mental health and substance abuse disorders: Implications for treatment services. *Journal of Community Psychology*, 33(4), 495-511.

³⁴ Hser, T.L., Anglin, M.D., & Chou, C. (1998). Evaluation of drug abuse treatment. Repeated measures design assessing methadone maintenance. *Evaluation Review*, 12(5), 547-570.

³⁵ Sentencing Project (2003). *Hispanic prisoners in the United States*. Accessed May 2003 from: www.sentencingproject.org/biref/pub1051.pdf.

³⁶ Hohman, M. M., & Galt, D. H. (2001). Latinas in treatment: Comparisons of residents in a culturally specific recovery home with residents in non-specific recovery homes. *Journal of Ethnic & Cultural Diversity in Social Work*, 9(3/4), 93-109.

are not tailored to meet the specific language, cultural, and parenting needs of Hispanic female adolescents and women.²⁹

PHARMACOLOGICAL TREATMENT. There are less than a handful of research studies that have evaluated ethnic differences in treatment response to pharmacotherapy for substance abuse.²³ One study showed that during the first two months of opiate stabilization, Black and Hispanic patients experienced less opiate-withdrawal symptoms than White patients.³⁷ The authors suggest that this result may reflect biological as well as sociocultural differences in the reporting and clinical presentation of opiate withdrawal among ethnic groups. Two studies have evaluated medication efficacy exclusively in U.S. Hispanics. One examined the difference in post-cessation weight gain among Hispanic male and female smokers;³⁸ and the other evaluated the efficacy of naltrexone compared with placebo in decreasing craving symptoms among Puerto Rican males with alcohol dependence.³⁹ These few studies are insufficient to reliably establish an effective course of treatment. It is important to note that a person's response to medication treatment depends on several factors other than biology, including adherence, family and social support, education, general health, and socioeconomic status, all of which may be affected by a person's racial or ethnic background.²³ Therefore, medication-efficacy studies that intend to study racial or ethnic differences in treatment response will need to consider both biological and behavioral/social factors that might influence the results.

BLENDING OF RESEARCH AND PRACTICE. Scientifically proven treatments need to be tested in real life settings where Hispanics are served to assess if, in fact, these approaches can be applied in community-based service agencies. More often than not, the efforts of providers, practitioners, and policy makers to deliver services to Hispanic drug users have depended on generic service models without addressing the needs and realities of Hispanics,⁴⁰

and there is virtually no research on the needs of Hispanic-serving community-based treatment agencies and providers. This mismatch may contribute to **low service utilization and retention levels**, the absence of effective strategies to diminish barriers to service delivery, and **disproportionate negative consequences** for Hispanics with drug abuse disorders.

ACCESS TO SERVICES. Hispanics are **less likely to have access to drug treatment and related services.**⁴¹ The reasons include lack of insurance, language barriers, a general shortage of Spanish-speaking providers, lack of knowledge

Hispanic drug users have depended on generic service models that do not address their needs.

about drug addiction and how to access services. Probably, for some of these reasons, Hispanics are also more likely to drop out of treatment, report delays in receiving care, and less likely to be satisfied with their drug abuse care than Whites.⁴² The most frequent site for potential **early**

detection and intervention is primary care, but in practice this may not happen due to lack of insurance among many Hispanics, lack of physician training in this area, as well as time and payer constraints.

TRAINING AND MENTORSHIP

Hispanics are not adequately represented in our nation's educational and scientific endeavors.⁴³ Relative to their proportion within the national population; Hispanics are significantly underrepresented among full-time faculty in the health, natural, and social sciences. Hispanics comprise only 3% of full-time instructional faculty in degree-granting universities and colleges.⁴⁴ This will not change because there is also under-representation of Hispanic students enrolled in graduate and professional schools. In the year 2000,

³⁷ Kosten, T.R., & Rayford, B.S. (1995). Effects of ethnicity on low-dose opiate stabilization. *Journal of Substance Abuse Treatment*, 12, 111-116.

³⁸ Hill, S.Y., & Neiswanger, K. (1997). The value of narrow psychiatric phenotypes and "super" normal controls. In: Blum, K. Noble, E.P. (Eds.), *Handbook of Psychiatric Genetics*. CRC Press, Boca Raton, FL, (pp. 37-46).

³⁹ Galarza, N.J., Díaz, R.D., Guzmán, F. Caballero, J.A., & Martínez, A.J. (1997). The use of naltrexone to treat ambulatory patients with alcohol dependence. *Boletín de la Asociación Médica de Puerto Rico*, 89, 157-160.

⁴⁰ Santisteban, D., & Vega, R.R. (2003). Blending Hispanic drug abuse research and practice. In *National Strategic Plan on Hispanic Drug Abuse Research: From the molecule to the community*. H. Amaro & D.E. Cortés, (Eds.), (pp. 118-126).

⁴¹ Alegria, M., Page, J.B., Hansen, H., Cauce, A.M., Robles, R., Blanco, C., Cortés, D.E., Amaro, H., Morales, A., & Berry, P. (2003). Improving drug treatment services for Hispanics. In *National Strategic Plan on Hispanic Drug Abuse Research: From the molecule to the community*. H. Amaro & D.E. Cortés, (Eds.), (pp. 127-142).

⁴² Wells, K., Klap, R., Koike, A., & Sherbourne, C. (2001). Ethnic disparities in unmet need for alcoholism, drug abuse and mental health care. *American Journal of Psychiatry*, 158, 2027-2032.

⁴³ Amaro, H., Márquez, E.D., Martínez, J., & Trujillo, K. (2003). Training of Hispanic drug abuse researchers. In *National Strategic Plan on Hispanic Drug Abuse Research: From the molecule to the community*. H. Amaro & D.E. Cortés, (Eds.), (pp. 167-175).

⁴⁴ U.S. Department of Education. National Center for Education Statistics. *Digest of Education Statistics.2001*. Available at: <http://nces.ed.gov/programs/digest/d01/>

only 4.1% (669) of all doctoral degrees granted in the United States were earned by Hispanics.⁴⁵ The absence of both Hispanic faculty and students in higher education is obviously alarming and measures need to be implemented to increase their presence in higher education. The underrepresentation of Hispanics in higher education is not unique to Hispanic drug abuse researchers. Rather, it is an overarching issue that contributes to the small number of Hispanic researchers devoted to drug abuse research and the small number who are successful in obtaining federal research funding in this area of investigation, thereby impacting the serious lack of scientific knowledge discussed in this document. We do not have enough scientists to conduct research with knowledge of Hispanic culture.

KEY STRATEGIES FOR POLICY

NEUROSCIENCE AND BIOLOGY

- ▶ Hispanics should be actively recruited to participate in genetic, genomic, pharmacological, and physiological (including neuroimaging, brain metabolism, and electrophysiological) studies. Efforts should go beyond mere inclusion in studies to making Hispanics a focus of such research. This research should consider biological variations among Hispanic subgroups.
- ▶ Basic research can contribute to the understanding of factors that influence drug abuse and addiction in Hispanics by targeting those factors to which Hispanics may be disproportionately exposed, including environmental toxins, malnutrition, stress, social environment (including de facto segregation, social disorganization, and discrimination), and risky physical environment (such as that produced by impoverishment). Interdisciplinary research on Hispanics and in animal models should investigate the potential for these influences to affect drug abuse and addiction, as well as the neurobiological systems mediating such effects.

PREVENTION

- ▶ Research on how stress influences drug-taking behavior is of particular value to Hispanics due to the pervasive presence of stress in the daily lives of minorities and immigrants. Even more relevant is research on the role played by chronic stressors in the day-to-day lives of minorities and immigrants (e.g., including social isolation,

marital disintegration, household poverty, transitions in family structure, many children in single-parent households, discrimination, and lack of access to drug treatment services). Also, it is important to conduct research on initiation and progression of drug use among Hispanic children and adolescents to enable the design of interventions to interrupt early drug use and to identify protective factors.

- ▶ Randomized controlled studies are needed to determine the possible benefits of culturally focused prevention-intervention programs. These studies will shed light on the significance and effects that cultural variables may have on beliefs, attitudes, and behaviors related to drug abuse among Hispanics.
- ▶ There is a need to conduct studies that would allow disentangling the steps of the processes that lead to both sexual risk for HIV and sexually transmitted infections. These include partner-seeking, partner communication, and sexual activity. Since drugs may be involved at each of these stages, there is also a need to explore how they further augment the risk of contracting HIV, and to develop preventive interventions that target adolescent drug use and sexual risk together.

TREATMENT

BEHAVIORAL TREATMENT

- ▶ In the area of adolescent drug abuse treatment, additional research is needed to show if family-based treatments, which have been shown to work in controlled studies, can also be effective when delivered by community-based service agencies; and to identify strategies to disseminate these approaches throughout the service delivery system.
- ▶ Funding for studies of treatment efficacy for Hispanic drug abusing women is urgently needed. These studies should consider the role of culture and how co-occurring disorders of addiction, mental illness, and history of trauma affect treatment retention and outcomes and test the efficacy of methods shown to be effective with other populations.
- ▶ The high prevalence of drug-related criminal justice involvement among Hispanics and their disproportionate rate of incarceration also call for research to understand

⁴⁵ National Advisory Mental Health Council (2001). *Workgroup on Racial/Ethnic Diversity in Research Training and Health Disparities Research. An investment in America's future: Racial/ethnic diversity in mental health careers.* Washington, D.C.

the factors that affect disproportionate rates of incarceration and successful community re-entry. Based on such research, then studies of interventions to decrease drug-related recidivism should be conducted.

PHARMACOLOGICAL TREATMENT

▶ A critical area of need for Hispanics, as well as other populations, is the development of useful pharmacotherapies for drug abuse and addiction and a better understanding of currently available treatments. An important question is whether there are different pharmacological responses among different racial or ethnic groups. Some findings suggest that differences might indeed be expected, due to differences in drug metabolism or in neurotransmitters involved in the therapeutic actions. However, there is a lack of studies comparing the responses of different racial/ethnic groups to medications for drug abuse and addiction.

BLENDING OF RESEARCH AND PRACTICE

▶ The application of efficacious treatment approaches requires that community providers be trained in methods shown to produce the best treatment outcomes. There has been no research on the extent to which community providers serving large number of Hispanics utilize evidence based approaches or in the best strategies for training such providers.

▶ Research should focus on four areas: the impact of training on competence and adherence in the delivery of evidence-based interventions by providers serving Hispanics; the impact of a Hispanic service provider's understanding of behavior change and drug addiction on the adoption of innovation; perceptions regarding the usefulness and limitations of standardized and manualized treatments among providers serving Hispanic clients; and the treatment service setting, and infra-structure characteristics of Hispanic agencies that prepare them to integrate evidence-based treatment.

ACCESS TO SERVICES

▶ Funding is needed to conduct studies on the barriers related to communication between caregivers and Hispanic clients: health literacy, the effectiveness of case manage-

ment and other strategies, the benefits of insurance coverage in adherence and retention in care, and state substance abuse funding and how it affects entry into and retention of drug abuse services by Hispanics. These studies should pay close attention to cultural context, and to family involvement, not only in the service sector but also in the clients' communities of residence.

- ▶ Research is needed to assess the efficacy of targeted informational and mass media campaigns on drug abuse and treatment that specifically reach Hispanics.
- ▶ Given the prevalence of HIV/AIDS and consequences of drug addiction among Hispanics and their limited access to services, the drug treatment field needs to move forward to enhance treatment programs and begin to test the effectiveness of different treatment models in achieving optimal recovery outcomes among Hispanic subgroups in different community and criminal justice settings. This should include expanded access to services as well as testing the efficacy of existing treatment models and their impact on HIV risk reduction.

TRAINING AND MENTORSHIP

▶ In light of the fact that Hispanics are now the largest minority group in the U.S., their projected continued increase, their educational disadvantages, and their under-representation in higher education, it is important to address the disproportionate absence of Hispanics at all levels in the educational and scientific community. While the lack of representation of Hispanics in higher education and science is not specific to the area of drug abuse; nevertheless it is a critical problem hampering the development of science on Hispanic drug abuse research as well as the training of Hispanic researchers in this area. Therefore, it is crucial to develop a national drug abuse research mentorship network of successful Hispanic and non-Hispanic senior investigators within the context of specific research projects and through the extensive network already in existence under the leadership of successful entities such as the National Hispanic Science Network on Drug Abuse.

TABLE A: SUMMARY OF “KEY STRATEGIES FOR POLICY”

GAPS IN HISPANIC DRUG ABUSE RESEARCH	RESEARCH POLICY STRATEGIES
<p>NEUROSCIENCE and biology Few studies to date have addressed the neurobiology of drug abuse and addiction in Hispanics.</p>	<p>Hispanics should be targeted for genetic, genomic, pharmacological, and physiological (including neuroimaging, brain metabolism, and electrophysiological) studies. Interdisciplinary research on Hispanics and in animal models should investigate how social and environmental factors affect drug abuse and addiction, as well as the neurobiological systems mediating such effects.</p>
<p>PREVENTION There is limited scientific evidence regarding the efficacy and effectiveness of drug abuse prevention interventions as applied specifically with Hispanic populations.</p>	<p>High priority should be given to the development and scientific evaluation of drug abuse preventive interventions that are explicitly culturally sensitive and relevant for Hispanics. These interventions should take into account the roles played by chronic stressors in the day-to-day lives of minorities and immigrants. Research on initiation and progression of drug use among Hispanic children and adolescents is needed in order to interrupt their drug use early on.</p>
<p>Existing studies fall short of identifying underlying personal and situational factors that drive attitudes toward safer sex practice and lead to risky behavior.</p>	<p>Studies that would allow disentangling the steps of the processes that lead to sexual risk are needed.</p>
<p>TREATMENT BEHAVIORAL TREATMENT Family-based treatment, the only proven approach for treatment of drug abuse among Hispanic youth, has not been tested in community-based agencies.</p>	<p>In the area of adolescent drug abuse treatment, additional research is needed to show if family-based treatments are effective in community-based service agencies.</p>
<p>There is not one single randomized study of treatment efficacy among Hispanic women or girls.</p>	<p>Funding for studies of effective treatment approaches for Hispanic women is urgently needed to inform practice in community-based settings.</p>
<p>PHARMACOLOGICAL TREATMENT Less than a handful of studies have evaluated ethnic differences in treatment response to pharmacotherapy for substance abuse.</p>	<p>The development of useful pharmacotherapies for drug abuse and addiction and a better understanding of currently available treatments are areas of critical need.</p>
<p>BLENDED OF RESEARCH AND PRACTICE Scientifically proven treatments need to be tested in real life settings where Hispanics are served in order to assess if, in fact, these approaches can be applied in community-based service agencies.</p>	<p>Research on the efficacy of training methods with providers serving Hispanics is needed.</p>
<p>ACCESS TO SERVICES Hispanics are less likely to have access to drug treatment and related services.</p>	<p>Funding is needed to conduct studies on the barriers related to access to service. These studies should pay close attention to cultural context and to family involvement, not only in the service sector but also in the clients’ communities of residence. There is a need to conduct studies to assess the efficacy of targeted informational campaigns on drug abuse and treatment that specifically reach Hispanics.</p>
<p>TRAINING AND MENTORSHIP Hispanics are significantly under-represented among full-time faculty in the health, natural, and social sciences.</p>	<p>A national mentorship network of successful Hispanic and non-Hispanic senior investigators within the context of specific research projects and through the extensive network already in existence is urgently needed. Such network can facilitate training through existing federal programs that encourage Latino students to pursue careers in science and research. Early exposure to higher education environment is crucial for young Latinos, and sustainable funding is needed to achieve this goal.</p>

CONCLUSION

Drug abuse is a problem for the nation and affects Hispanics, the fastest growing ethnic minority population. Research plays a significant role in producing scientific evidence to inform policy makers on the most promising ways to use limited public resources to diminish the adverse effects of drug abuse.

The *single most important strategy for policy makers*, government agencies, scientists and health care leaders to consider is the development of *targeted funding opportunities* to establish national interdisciplinary Hispanic research training centers dedicated to advancing knowledge and solutions to drug abuse among Hispanics and to mentoring the next generation of Hispanic researchers.

Secondly, *new opportunities for advancing science* exist in targeting Hispanics for genetic, genomic, pharmacological and physiological (including neuroimaging, brain metabolism, and electrophysiological) studies. This might be a particularly attractive option since basic biological research can contribute to the understanding of factors that influence drug abuse and addiction in Hispanics.

Finally, despite existing research on the prevention and treatment of drug abuse, scant attention has been given to the efficacy and effectiveness of these modalities with different Hispanic groups (Puerto Rican, Cuban, Mexican, and other Central and South American Hispanics). *Dedicated funding to producing scientific evidence* of what works with Hispanics in treatment and prevention may generate more cost-effective outcomes than incarceration and other more costly drug policies.

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The mission of the *National Hispanic Science Network on Drug Abuse (NHSN)* is to foster research on drug use among Hispanics and to facilitate its application to practice and public health. The *NHSN on Drug Abuse* is dedicated to improving the health of Hispanics by increasing the number and quality of interdisciplinary translational research studies on drug abuse and fostering the development of Hispanic scientists in drug abuse research. The National Institute on Drug Abuse (NIDA) funds the NHSN. The preparation of the NHSN Strategic Plan on Hispanic Drug Abuse Research was conducted by Hortensia Amaro, Ph.D. and Dharma E. Cortés, Ph.D. with funding from a grant from The Robert Wood Johnson Foundation (Grant No. 045270).

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