NIH Public Access

Author Manuscript

J Am Acad Child Adolesc Psychiatry. Author manuscript; available in PMC 2012 November 05.

Published in final edited form as:

J Am Acad Child Adolesc Psychiatry. 2011 January ; 50(1): 22–31. doi:10.1016/j.jaac.2010.10.005.

Disparities in treatment for substance use disorders and co-occurring disorders for ethnic/racial minority youth

Dr. Margarita Alegria, Ph.D., **Dr. Nicholas J. Carson, M.D.**, **Dr. Marta Goncalves, Ph.D.**, and **Ms. Kristen Keefe, B.A.**

Center for Multicultural Mental Health Research, Cambridge Health Alliance and Harvard Medical School

Abstract

Objective—To review the literature on racial and ethnic disparities in behavioral health services and present recent data, focusing on services for substance use disorders (SUD) and comorbid mental health disorders for children and adolescents.

Method—A literature review was conducted of behavioral health services for minority youth. Papers were included if specific comparisons in receipt of SUD services for youth were made by race or ethnicity. The review was organized following the Sociocultural Framework.

Results—Compared to non-Latino Whites with SUD, Black adolescents with SUD report receiving less specialty and informal care, while Latinos with SUD report less informal services. Potential mechanisms of racial and ethnic disparities were identified in: federal and economic health care policies and regulations; the operation of the health care system and provider organization; provider level factors; the environmental context; the operation of the community system; and patient level factors. Significant disparities reductions could be achieved by adoption of certain state policies and regulations that increase eligibility in public insurance. There is also a need to study how the organization of treatment services might lead to service disparities, particularly problems in treatment completion. Institutional and family characteristics linked to better quality of care should be explored. Since treatments appear to work well independent of race/ethnicity, translational research to bring evidence based care in diverse communities can bolster their effectiveness.

Conclusions—Our review suggests promising venues to reduce ethnic and racial disparities in behavioral health services for ethnic and racial minority youth.

Keywords

disparities; behavioral health services; youth; race; ethnicity

This paper reviews racial and ethnic disparities in behavioral health services, focusing not only on services for substance use disorders (SUD) but also on co-morbid mental health disorders for children and adolescents in the United States. Substance abuse remains a significant public health concern for ethnic minority youth. Our review emphasizes the

© 2010 American Academy of Child & Adolescent Psychiatry. Published by Elsevier Inc. All rights reserved

Correspondence to: Margarita Alegria, 120 Beacon Street, 4th floor, Somerville, MA 02143. Telephone: (617) 503-8447. Fax: (617) 503-8430. malegria@charesearch.org.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

$watermark-text

$watermark-text

$watermark-text

$watermark-text

$watermark-text

$watermark-text

urgency of early intervention to address service gaps, given that youth who have behavioral health disorders prior to age 18 have worse education, employment, and social outcomes than those with later onset or no SUD.[1, 2] Data from the National Survey on Drug Use and Health (NSDUH) suggest that rates of adolescent past-month substance abuse among American Indians/Alaska Natives was 13.7%; 9.8% for Blacks, 8.9% for persons reporting two or more races, 8.5% for non-Latino Whites; 7.5% for Native Hawaiians/Pacific Islanders, 6.9% for Latinos, and 3.6% for Asians.[3] Across all youth, 8.2% (~2.1 million) needed treatment for drug or alcohol use problems in 2006.[3] Of these, only 181,000 (8.7%) received treatment at a specialty facility, suggesting a dramatic gap in unmet need for SUD services.

The Institute of Medicine (IOM)[4] has demonstrated that minority youth have less access to, and lower quality of, behavioral health services compared to their White counterparts. Importantly, the IOM definition of disparities, described as differences in service use that are not justified by underlying health conditions or treatment preferences,[5] includes all racial/ethnic service use differences that are not directly attributable to need for behavioral health services, such as socio-economic status (SES) or insurance. Still, modifications to the IOM model are needed before it can be applied to behavioral health services for youth. Family, lay system and community factors are not directly addressed in the IOM model but may act as mechanisms of disparities.[6] Patient - preferences should also be treated as a mechanism because they are shaped by the same social structures that create disparities, and may be confounded by not knowing available treatment options or previous experiences of discrimination.[7]

We discuss racial and ethnic disparities in the context of the Socio-Cultural Framework of Health Service Disparities[8] by organizing the literature in six levels: 1) Federal and economic health care policies and regulations; 2) the operation of the health care system and provider organization; 3) provider level factors; 4) the environmental context, such as the social and economic forces affecting ethnocultural populations; 5) the operation of the community system, including family, friends, and the lay sector; and 6) patient level factors. These factors appear linked in tandem to fundamental mechanisms in the development and maintenance of health service disparities. Some variables appear associated more with access while others relate to receiving quality services. We review research on disparities mechanisms in substance abuse services for racial/ethnic minority families by expanding upon this framework to elaborate the kinds of research questions, propositions and hypotheses linked to health care differentials among racial and ethnic minority youth. We emphasize that service disparities cannot be seen as a sequential linear process, but rather should be seen as an interrelated series of processes that appear to differentially affect the likelihood of accessing and receiving quality care. Considering multiple disparities factors can allow for a better empirical base to develop treatment, educational and policy interventions to close the disparities gap. We also provide recent comparisons of behavioral health service use data among culturally diverse youth using the NSDUH and then summarize perceived gaps and promising areas.

Methods

Search Strategy

We performed PubMed searches using the Medical Subject Heading terms for *substance use disorders, health services, adolescence*, and *health disparities*. We repeated this search three times, substituting the terms "*ethnicity*" and then "*poverty*" for "*service disparities*." This search was repeated using the PsycINFO database. Only studies that explicitly addressed racial/ethnic differences in behavioral health service use were included. Studies that did not include children or adolescents were excluded. We also searched national databases

dedicated to the study of substance abuse/dependence, e.g. the Center for Substance Abuse Research, and reviewed recent results from national substance use datasets, such as the NSDUH and Monitoring the Future (MTF).

Results

Behavioral Health Services for Racial/Ethnic Minority Youth

Recent results from the NSDUH serve as context for understanding unmet need for behavioral health services. The NSDUH estimates the prevalence of substance use disorders and use of behavioral health services for the U.S. civilian, non-institutionalized population aged 12 years and older. In Table 1, we present 2005–2008 data on past-year substance use disorders, specialty treatment, and informal treatment. Compared to non-Latino Whites with SUD, Black adolescents with SUD report receiving less specialty and informal care, while Latinos with SUD report less informal services. Lower rates of specialty services for Black adolescents are similar to previous results[9] and might be explained by a greater reluctance to receive psychotropic treatments.[10, 11] This lower rate can also be attributed to African Americans' greater participation with social services [12] given a complex pattern of social and family needs. The lower use of informal services found for Black and Latino youth could well be justified by a greater self-reliance and an unwillingness to discuss substance symptoms with others.[13,14]

These results contradict some regional studies, like McCabe and colleagues, that found representation of Black and Latino youth in alcohol/drug treatment services at rates similar to those in the Census.[15] Bui,[16] and Sue[17] also found White and Black youth over-represented, and Latino youth under-represented across most behavioral health treatment sectors. Other regional studies have found no behavioral service differences for African American youth as compared to White youth, particularly after adjusting for level of need.[18–20] Though most regional studies vary by geography and racial/ethnic composition or use different methods to assess need, they nonetheless form an important context for understanding potential mechanisms to explain differential treatment patterns.

Potential Mechanisms of Behavioral Health Service Disparities

Federal and Economic Health Care Policies and Regulations

Health care policies and regulations at the state and federal level aimed towards cost control and remediating budget shortfalls may result in healthcare access disparities.[21] Examples include restrictions on Medicaid or on the State Children's Health Insurance Program (SCHIP) eligibility criteria. More than 60% of the uninsured children are African American or Latino,[21] of which three fourths are eligible for coverage under SCHIP or Medicaid. This demonstrates a serious barrier to access since SCHIP has demonstrated increased access for minority youth [22], including access for substance abuse treatments. Shone[23] and Szilagyi[24] uncovered racial/ethnic disparities in unmet need in minority youth that were effectively decreased after enrollment in SCHIP. A similar effect was observed in Kansas[25] where unmet healthcare needs were reduced by nearly 80% for Black children and by 36% for Latino children with the expansion of SCHIP.

The Operation of the Health Care and School-based System and Provider Organization

Reducing disparities is dependent on effective screening and referral. Schools are critical for early detection of behavioral health problems[26] since the majority of behavioral health services are received either at school or at the request of school personnel.[18, 26–28] Anglin[29] described a cross-sectional sample of adolescents using school-based health clinics, finding

that half of the population serviced was minority youth (22% Black and 28% Latino), with annual mean numbers of visits for mental health of 5.8 and 6.8 for substance abuse.

Differential referral from schools, healthcare and government organizations may operate as mechanisms for reducing or increasing access to substance abuse treatment. Among youth with alcohol abuse, Latino adolescents were less likely to be referred for treatment than Whites, even when they were already receiving mental health treatment.[30] Minority children are often under-identified by their schools.[31, 32] Although teacher detection of student need is among the best predictors of youth service access,[33] it remains unknown whether teachers differ in their referral of ethnic minority youth..[34] Some studies suggest that teacher identification of problematic behaviors is associated with race and ethnicity[35] while others find that teachers accurately represent symptoms in ethnic minority youth.[36]

Barriers to quality substance abuse treatment might also be due to how the provider organization structures treatment services. A recent study of 1088 adolescents in outpatient or residential substance abuse treatment found that ethnicity did not predict admission to treatment.[37] However, ethnicity was confounded with treatment site, and quality disparities appeared to exist at the system level. Garland studied a San Diego sample of youth in public systems of care, and found few racial/ethnic differences in inpatient substance abuse treatment; however, for outpatient, Asian American/Pacific Islanders had much higher rates of past year treatment, while African Americans had the lowest.[38] Heflinger found similar results in a 2006 study of Tennessee Medicaid data,[13], where White youth had double the rate of outpatient treatment compared to Black youth. Clinician identification and referral bias was considered a possible explanation. Similarly, in a study of 664 youth receiving intensive case management (ICM), those with substance abuse were less likely to come from racial/ethnic minority groups.[39] These studies suggest that certain minority groups might be receiving less intense treatments in various sectors of care, possibly linked to lower quality of services.

Provider level factors

A disproportionably low geographic supply of providers, particularly of multilingual providers in diverse communities[40] also promotes service disparities in access. Communities with high proportions of African American and Latino residents are four times as likely as non-Latino White communities to have a shortage of healthcare providers, regardless of community income.[41] Language concordance between client and provider may affect adherence to treatment, which is tied to receiving guideline concordant care.[42–44] Even when the youth is fluent in English, the inability of health professionals to speak the parents' preferred language represents an important barrier to retention in care[45] and risks misinterpretations that can hinder correct diagnosis.[46]

There are inconsistent findings on whether provider and youth ethnic and racial matching might be linked to quality care disparities. Flicker reported that ethnic match had a positive effect on self-reported substance use for Latino youth, but not for Anglo youth.[47] Nonetheless, Gamst found no evidence that ethnic match affected changes in Global Assessment of Functioning scores or service use in 1,946 adolescents in community mental health centers.[48] The Gamst study controlled for a number of relevant covariates (e.g. citizenship, trauma, referral source, language match, gender match, and diagnosis), which suggests ethnicity may be a proxy for such factors. The difference in outcomes for these two studies highlights how inclusion of certain confounders might change findings and the importance of consistently adjusting for the same confounders to improve comparability.

Provider attitudes can also be important determinants of quality of care. A small qualitative study explored concepts of "culture" among behavioral health providers for adolescents.[49]

$watermark-text
$watermark-text
$watermark-text

Providers assumed that Latino families avoided behavioral health providers, stigmatized mental illness, preferred clergy rather than formal treatment, devalued women's health, and had lost hope for the future due to poverty. The authors saw these attitudes as missing the context of marginalization, discrimination and poverty that should be addressed in treatment services.

The Environmental Context, including Social and Economic Forces

The economic and social milieu can play a significant role in access and quality of services. Fiscal constraints and limitations in federal financing for the Indian Health Service[50] may mean barriers to substance abuse service delivery both in terms of access and quality. This could be critical given reports that Native American youth were up to 10 times more likely to abuse alcohol at early ages (9–13) than their White counterparts.[51] Gone (2007)[52] describes how: "the assertion that American Indians and Alaska Natives are 'underserved' with regard to mental health care in the United States glibly understates a national travesty (pg.13)." Federal and state initiatives that expand substance abuse treatment within correctional and school-based settings, given the shortage of providers can also increment treatment availability.

Archibald (2008)[53] analyzed the association between community socioeconomic and racial/ ethnic disadvantage across US counties from 2000–2003, finding no disparities in substance abuse treatment provision in poorer communities and those with higher concentrations of African Americans, but significant service disparities in communities with higher concentrations of Latinos. The racial and ethnic composition of the environmental context as well as economic and social characteristics might also influence identification of substance use problems. For example, youth living in counties with a higher proportion of single parent families, increased rates of drug related arrests, and higher proportions of minority residents have less likelihood of being identified for substance abuse treatments when in need of care.[54] Living in communities with higher median income, greater proportion of persons who graduated high school, and greater concentration of treatment facilities increases the opportunities of being identified if in need.

The Operation of the Community System, including Family, Friends, and the Lay Sector

Communities of color, which have endured long-standing barriers to care, may be more stoic and tolerant of suffering, thus increasing the threshold for bringing youth to treatment.[55] Gonzalez[56] studied help-seeking attitudes in behavioral health care and found more negative attitudes among younger English-speaking Latinos and African Americans than non-Latino Whites. Assessment models that are insensitive to cultural differences in youth development may over pathologize certain behaviors,[57] while under pathologizing genuine behavioral disorders.[58] African American families may decline care for fear their children will be coerced into treatment..[59]

Service disparities are often created by barriers that dissuade parents from seeking services for their children.[60]. Other barriers include parent inability to identify need of SUD, denial of illness severity, and the belief that problems would improve by themselves.[61] Minority parents report less satisfaction with treatment when they perceive that providers have not considered their cultural values.[62] Because these studies are mostly qualitative not comparative, less is known about how subjective and objective barriers vary by race/ ethnicity.

Life stressors and other competing demands may also act as barriers to behavioral services,[63] limiting parents' ability to maintain their children in quality treatment. Cornelius found that parental mental illness, substance abuse, and number of children in the home

$watermark-text $watermark-text $watermark-text

acted as barriers to receiving behavioral health services for African American boys.[64] Parent-perceived strain of child behavioral health needs may have a varied effect. In a large sample of youth, Shin used structural equation modeling to demonstrate that caregiver strain was a path to substance abuse treatment for African American youth, but that this strain was lower among African American parents.[65] This is consistent with other literature[61] suggesting that extended social networks may diminish strain for African American families coping with hardship.

Given that parents are usually the ones who decide to engage services for their children,[66] parent perceptions of what is "typical" or "appropriate" behavior could also affect service disparities. [62] Minority parents may have a higher threshold for labeling symptoms as a problem that requires professional care,[67] a lower likelihood to medicalize problems,[60, 68] or alternative conceptualizations of children's problems.[69] Low healthcare literacy may also hinder parents' ability to register for public insurance and understand coverage benefits and treatment directives.[70] Research in this area unfortunately does not estimate the use of behavioral health services as a function of these perceptions.

Patient Level Factors

Treatment preference is a relatively neglected area of study in service disparities. There are preliminary data on preference for alcohol treatment services among high school students.[71] In study of 1147 students, African American, Latino, and "Other minority" more often preferred individual treatment sessions for secondary prevention of alcohol abuse compared to their White peers. The authors hypothesize that private settings offer a safer space for self-disclosure and avoidance of group setting stereotypes.

Matching type of service to clinical need is a potentially important, though understudied, area for disparities research. There is some evidence, in African American and White patients 17 or older, that matching services to clinical need (measured by a ratio of services received as reported by clients, to the services they reported needing) helps to retain patients in treatment and reduce post-treatment substance use.[72] Similar results were found in a sample of highly-acculturated substance-abusing Latinos and White patients.

Adolescence is a critical stage for the identification of behavioral health problems.[73] Measures used to assess adolescent psychopathology may not have been sufficiently validated among various racial/ethnic groups. Research using Item Response Theory suggests a diagnostic algorithm that considers all abuse and dependence symptoms conjointly.[74] Wu et al. performed a similar analysis for opioid use disorders and found comparable results.[75] Further, African American and Latino adolescents showed different endorsement of dependence symptoms compared to White adolescents. More assessment studies of SUD measures for certain minority groups are needed to better address accurate detection.

Different patterns of comorbidity might also introduce uncertainty in the diagnosis of minority youth with SUD. Up to 80% of youth receiving substance-abuse treatment have co-morbid mental disorders.[76] Chisholm[77] found that African Americans, Latinos, and mixed-race adolescents in substance abuse treatment are more likely than Whites to have co-occurring internalizing problems (depression or traumatic stress), even when accounting for family substance use, juvenile justice involvement, and single-parent household.[77] African Americans and American Indian/Alaskan Native were less likely than Whites to have co-occurring externalizing problems or both internalizing and externalizing problems. These findings may impact service use.[78]

$watermark-text $watermark-text $watermark-text

Interestingly, evidence suggests no difference in perceived need by ethnicity/race.[79] A longitudinal study of 208 young adults found that subjective unmet need for behavioral health services was not related to ethnicity, but rather to lifetime mood and substance dependence disorders. This suggests that both majority and minority youth alike may perceive unmet need, with common barriers being attitudes toward treatment, not knowing where to obtain help, financial concerns,[79] and belief that the mental health system is not an important or accessible resource[80] or that problems can be solved without professional assistance.

Treatment completion is an important indicator of quality of care. Preliminary evidence from the Treatment Episodes Data Set (2001–2004) of over 73,000 adolescents showed significantly lower treatment completion rates among African Americans (33.5%) and Latinos (39.4%) compared to non-Latino Whites (45.1%).[81] A smaller study of 419 adolescents treated in private treatment facilities found similar differences.[82] Compared to non-Latino Whites, Native American adolescents were less likely to continue treatment after initiating (OR= 0.35) and African Americans spent 50% less time in treatment (mean 8.4 weeks for African Americans vs. 16.3 weeks for non-Latino Whites). In a prevention study with African American youth, Zand[83] found that those with lower family conflict and less family relocation were easiest to retain in treatment.

What can Child and Adolescent Psychiatrists do about Substance Use Service and Quality Disparities?

A number of treatment approaches have good evidence for reducing substance abuse. According to Huey and Polo's review,[84] multidimensional family therapy (MDFT[85]) and multisystemic therapy (MST) were classified as "probably efficacious" for drug-abusing ethnic minority youth. Liddle[86] found MDFT led to more rapid decreases in drug use than group-based CBT. In a meta-analysis, Huey and Polo did not find that treatment outcome across a number of disorders is moderated by youth ethnicity or "culture-responsive" treatment status. Resnicow[87] describes a similar culturally sensitive intervention that addresses "surface structure," or the social and behavioral characteristics of the target population, and "deep structure," or the cultural factors of the target population that influence health behaviors. Other study adaptations are the inclusion of cultural values and concepts, providing care in the patients' native language, and matching patient-provider ethnicity.[88] This meta-analysis recast Huey's findings by noting that minority youth tend to be more acculturated than adults, and culturally sensitive adaptations work better for less acculturated populations,[88] indicating that interventions involving less acculturated parents might benefit from such tailoring.

An important gap identified by Huey and Polo is the lack of culturally validated measures for assessing and tracking substance use outcomes. Their review demonstrated that reliability and validity of measures are not routinely assessed in cross-cultural intervention research. Kurtines and Szapocznik[89] have described the necessary approaches, including back translation, cross-cultural validation, and inclusion of population-specific and immigrant-specific measures. These may include variables related to discrimination, ethnic mistrust, ethnic orientation, acculturation, and acculturative stress.[90] Gil's study of a brief motivational, cognitive behavioral intervention among minority juvenile offenders showed associations between ethnic orientation/pride and reductions in alcohol use among US-born Hispanics.[90] However, even recent reports of interventions among minority samples offer little comment on tool adaptation.[91] There are examples from the adult literature of rigorous cultural adaptations of common measures, such as the Alcohol Use Disorder and Associated Disabilities Interview Schedule.[92]

MST is also more successful than "usual" services (minimal mental health or substance abuse treatment) at decreasing drug use following treatment[93] and four years later.[94] Ethnicity (African American vs. White) did not moderate outcomes.[93, 94] Similarly, Brief Strategic Family Therapy has been shown to reduce marijuana use and behavior problems among a sample of school-referred Latino adolescents with externalizing behavior problems and substance abuse.[95] This family-centered treatment has been refined to better address the social ecology of substance-abusing youth, in a treatment called Structural Ecosystems Therapy (SET[96]), which attempts to restructure maladaptive interactions and relationships within the family, peer social group, school, and involved agencies (e.g. juvenile justice). An 18-month randomized trial among African American and Latino substance-abusing adolescents showed that SET was more effective than family-process therapy or controls, but only for Latino participants.[91]

School-based substance use prevention curricula have the potential to reach ethnic minority youth who might otherwise not attend clinic-based treatment. Botvin achieved one year decreases in polysubstance use[97] and two-year decreases in binge drinking[98] using a cognitive-behavioral, school-based prevention approach among African American and Latino inner-city youth that was adapted with language and role-play scenarios. Similarly, a prospective, randomized controlled trial of a culturally adapted prevention curriculum among Alaskan youth showed six-month decreases in use of inhalants and medications.[99] Surveying a group of experienced teachers, Ringwalt[100] identified several reasons for adapting prevention curricula to youth racial/ethnic context: youth violence, limited English proficiency, and cultural diversity in the school body. "Hybrid prevention programs" have used community-based participation to identify local preferences while still maintaining appropriate implementation and program fidelity.[101]

Discussion

Nationally representative studies that test the proposed mechanisms of behavioral health service disparities for minority youth with SUD are needed. Identifying such mechanisms is of particular concern so that outreach, treatment completion and effective referral interventions can be designed. Parental perceptions and beliefs surrounding need for care are central to engaging minority youth, though further research is needed to quantify their impact. Schools are crucial referral sources, and further research may help clarify how school staff can influence successful engagement in SUD treatment. Agencies such as SAMSHA should offer incentives which train school staff to facilitate early interventions, effective referral and engagement.

Item response theory of probes for screening and accurate SUD diagnoses can improve the application of new criteria to culturally diverse populations. Determining whether universal or ethnic specific probes are needed should be studied. Assessing co-morbid conditions is also important in identifying need for substance use care.

Barriers to care remain a pressing issue for minority families. Minority youth are disproportionately affected by social forces such as police detainment that can influence coercive access to treatment and negative experiences in care. Yet coercive treatments for substance involved offenders have been shown to produce considerable improvement in level of substance use and lowering criminal involvement[102] suggesting the role of coercive treatments as a public health intervention. One alternative is to study and improve SUD services in education and community settings for minority youth. Additional data are needed to establish whether, and what type of, ethnic matching of youth and provider results in improved service outcomes.

$watermark-text $watermark-text $watermark-text

$watermark-text
$watermark-text
$watermark-text

SUD treatment quality appears to be worse among minorities. There are potential ethnic-specific targets for intervention, such as structural or motivational barriers to engagement for Native Americans or retention in care for African Americans and Latinos. Equally important is the identification of institutional and family characteristics linked to better quality of care. Fortunately, there are a number of evidence-based therapies that improve outcomes and appear to work as well, or better[91] for minority youth.

Our review suggests a number of important areas for research and policy, although the literature is sparse. Santisteban[103] has outlined issues in the transfer of empirically-supported technologies for substance abuse treatment in Latino populations, which seem relevant to other racial/ethnic minority youth, including testing established treatments specifically in minority samples both with and without elements of cultural competence. There may also be treatments that do not meet stringent empirically-supported criteria, but demonstrate an adequate balance of internal and external validity with ethnic and racial minorities.

Overall there appear to be many promising venues to reduce ethnic and racial disparities in behavioral health services for ethnic and racial minority youth. Significant disparities reductions could be achieved by adoption of certain state policies and regulations that increase eligibility in public insurance and allocate necessary funds to guarantee coverage and availability of basic substance abuse treatments, including language concordant services. There is also a need to study how the organization of treatment services might lead to service disparities, particularly problems in treatment completion. Findings that the context in which one lives relates to whether or not substance problems will be identified should be linked to public health initiatives for identification and referral of SUD. Ethnic and racial differences in parental perceptions of when substance use symptoms require professional care and caregiver's health literacy should be explored as venues to reduce service disparities, as well as minority youth's treatment preferences and matching services to their specific needs. Evaluating mechanisms to encourage minority youth to not depend only on self-reliance but to seek care is another promising area for disparities reduction. Our review emphasizes the accomplishments in identifying potential venues for disparities interventions for future testing. This is critical since the trends in healthcare disparities for ethnic and racial minority youth remain stagnant. [104]

Acknowledgments

This manuscript was supported by NIH Research Grant # 1P50 MHO 73469 funded by the National Institute of Mental Health and by #P60 MD0 02261 funded by the National Center for Minority Health and Health Disparities.

The statistical expert was Chih-Nan Chen, PhD, of the Center for Multicultural Mental Health Research, Cambridge Health Alliance. We are grateful to Ms. Sheri Lapatin, of the Center for Multicultural Mental Health Research, Cambridge Health Alliance, for her helpful editing of the manuscript.

References

1. Kessler RC, Foster CL, Saunders WB, Stang PE. Social consequences of psychiatric disorders, I: Educational attainment. American Journal of Psychiatry. 1995; 152(7):1026–1032. [PubMed: 7793438]
2. Turnbull JE, George LK, Landerman R, Swartz MS, Blazer DG. Social outcomes related to age of onset among psychiatric disorders. Journal of Consulting and Clinical Psychology. 1990; 58(6): 832–839. [PubMed: 2292633]
3. U.S. Department of Health and Human Services. National Survey on Drug Use & Health: National Findings. SAMHSA, Office of Applied Studies; 2006.
4. Institute of Medicine. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Washington, D.C: The National Academies Press; 2002.

$watermark-text

$watermark-text

$watermark-text

5. Institute of Medicine. Committee on Quality of Health Care in America: Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, D.C: National Academy Press; 2001.
6. Farmer E, Burns B, Chapman M, Phillips S, Angold A, Costello EJ. Use of mental health services by youth in contact with social services. Social Service Review. Dec.2001 2001:605–624.
7. Armstrong K, Hughes-Halbert C, Asch D. Patient Preferences Can Be Misleading As Explanations for Racial Disparities in Health Care. Archives of Internal Medicine. 2006; 166(9):950–954. [PubMed: 16682567]
8. Alegría, M.; Canino, G.; Pescosolido, B. A Socio-Cultural Framework for Mental Health and Substance Abuse Service Disparities. In: Sadock, BJ.; Sadock, VA.; Ruiz, P., editors. Comprehensive Textbook of Psychiatry. Baltimore: Wolters Kluwer Health, Lippincott Williams & Wilkins; 2009.
9. Angold A, Erkanli A, Farmer EMZ, et al. Psychiatric disorder, impairment, and service use in rural African American and white youth. Archives of General Psychiatry. 2002; 59(10):893–901. [PubMed: 12365876]
10. Lasser KE, Himmelstein DU, Woolhandler SJ, McCormick D, Bor DH. Do minorities in the United States receive fewer mental health services than whites? International Journal of Health Services. 2002; 32(3):567–578. [PubMed: 12211293]
11. Zito J, Safer DJ, Dosreis S, Riddle MA. Racial disparity in psychotropic medications prescribed for youths with Medicaid insurance in Maryland. Journal of the American Academy of Child & Adolescent Psychiatry. 1998; 37(2):179–184. [PubMed: 9473914]
12. Cauce AM, Domenech-Rodríguez M, Paradise M, et al. Cultural and contextual influences in mental health help seeking: A focus on ethnic minority youth. Journal of Consulting and Clinical Psychology. 2002; 70(1):44–55. [PubMed: 11860055]
13. Heflinger CA, Chatman J, Saunders RC. Racial and gender differences in utilization of Medicaid substance abuse services among adolescents. Psychiatric Services. 2006; 57(4):504–511. [PubMed: 16603746]
14. Copeland EP, Hess RS. Differences in young adolescents' coping strategies based on gender and ethnicity. The Journal of Early Adolescence. 1995; 15(2):203–219.
15. McCabe K, Yeh M, Hough R, et al. Racial/ethnic representation across five public sectors of care for youth. Journal of Emotional and Behavioral Disorders. 1999; 7:72–82.
16. Bui KV, Takeuchi DT. Ethnic minority adolescents and the use of community mental health care services. Am J Community Psychol Aug. 1992; 20(4):403–417.
17. Sue S, Fujino DC, Hu L, Takeuchi D, Zane N. Community mental health services for ethnic minority groups. A test of the cultural responsiveness hypothesis. Journal of Consulting and Clinical Psychology. 1991; 59(4):533–540. [PubMed: 1918557]
18. Burns B, Costello E, Angold A, et al. Children's mental health service use across service sectors. Health Affairs. 1995; 14(3):147–159. [PubMed: 7498888]
19. Cohen P, Hesselbart C. Demographic factors in the use of children's mental health services. American Journal of Public Health. 1993; 83(1):49–52. [PubMed: 8417606]
20. Pumariega A, Glover S, Holzer C, Nguyen H. Administrative update: utilization of services. II. Utilization of mental health services in a tri-ethnic sample of adolescents. Community Mental Health Journal. 1998; 34(2):145–156. [PubMed: 9620159]
21. King, M. The SCHIP Shortfall Crisis Ramifications for Minority Children. Center for American Progress; 2007.
22. Lillie-Blanton M, Hoffman C. The role of health insurance coverage in reducing racial/ethnic disparities in health care. Health Affairs. 2005; 24(2):398–408. [PubMed: 15757923]
23. Shone L, Dick A, Klein J, Zwanziger J, Szilagyi P. Reduction in Racial and Ethnic Disparities After Enrollment in the State Children's Health Insurance Program. Pediatrics. 2005; 115(6):e697–e705. [PubMed: 15930198]
24. Szilagyi PG, Dick AW, Klein JD, Shone LP, Zwanziger J, McInerny T. Improved access and quality of care after enrollment in the New York State Children's Health Insurance Program (SCHIP). Pediatrics. 2004; 113(5):395–404.

$watermark-text $watermark-text $watermark-text

25. Dick AW, Brach C, Allison RA, et al. SCHIP's impact in three states: how do the most vulnerable children fare? Health Affairs. 2004; 23(5):63–75. [PubMed: 15371371]
26. President's Commission on Mental Health. Final Report for the President's New Freedom Commission on Mental Health. http://www.mentalhealthcommission.gov/reports/FinalReport/downloads/downloads.html
27. Farmer EMZ, Stangl DK, Burns BJ, Costello EJ, Angold A. Use, persistence, and intensity: patterns of care for children's mental health across one year. Community Mental Health Journal. 1999; 35(1):31–46. [PubMed: 10094508]
28. Leaf P, Alegría M, Cohen P, et al. Mental health service use in the community and schools: Results from the four-community MECA study. Journal of the American Academy of Child & Adolescent Psychiatry. 1996; 35:889–897. [PubMed: 8768348]
29. Anglin TM, Naylor KE, Kaplan DW. Comprehensive school-based health care: high school students' use of medical, mental health, and substance abuse services. Pediatrics. 1996; 97(3):318–330. [PubMed: 8604264]
30. Wu LT, Ringwalt CL. Use of alcohol treatment and mental health services among adolescents with alcohol use disorders. Psychiatric Services. 2006; 57(1):84–92. [PubMed: 16399967]
31. Wood PA, Yeh M, Pan D, Lambros KM, McCabe KM, Hough RL. Exploring the relationship between race/ethnicity, age of first school-based services utilization, and age of first specialty mental health care for at-risk youth. Ment Health Serv Res. Sep; 2005 7(3):185–196. [PubMed: 16194004]
32. Yeh M, McCabe K, Hurlburt M, et al. Referral sources, diagnoses, and service types of youth in public outpatient mental health care: a focus on ethnic minorities. Journal of Behavioral Health Services & Research. 2002; 29(1):45–60. [PubMed: 11840904]
33. Wu P, Hoven C, Bird H, et al. Depressive and disruptive disorders and mental health service utilization in children and adolescents. Journal of the American Academy of Child & Adolescent Psychiatry. 1999; 38(9):1081–1090. [PubMed: 10504806]
34. van Ryn M, Fu S. Paved with good intentions: do public health and human service providers contribute to racial/ethnic disparities in health? American Journal of Public Health. 2003; 93(2):248–255. [PubMed: 12554578]
35. Chang DF, Sue S. The effects of race and problem type on teachers' assessments of student behavior. Journal of Consulting and Clinical Psychology. 2003; 71(2):235–242. [PubMed: 12699018]
36. Hosterman SJ, DuPaul GJ, Jitendra AK. Teacher Ratings of ADHD Symptoms in Ethnic Minority Students: Bias or Behavioral Difference? School Psychology Quarterly. 2008; 23(3):418–435.
37. Jaycox LH, Morral AR, Juvonen J. Mental health and medical problems and service use among adolescent substance users. Journal of the American Academy of Child & Adolescent Psychiatry. 2003; 42(6):701–709. [PubMed: 12921478]
38. Garland AF, Lau AS, Yeh M, McCabe KM, Hough RL, Landsverk JA. Racial and ethnic differences in utilization of mental health services among high-risk youths. American Journal of Psychiatry. 2005; 162(7):1336–1343. [PubMed: 15994717]
39. Evans ME, Dollard N, McNulty TL. Characteristics of seriously emotionally disturbed youth with and without substance abuse in intensive case management. Journal of Child and Family Studies. 1992; 1(3):305–314.
40. Derose KP, Baker DW. Limited English proficiency and Latinos' use of physician services. Medical Care Research and Review. 2000; 57(1):76–91. [PubMed: 10705703]
41. Putsch R, Pololi L. Distributive justice in American healthcare: Institutions, power, and the equitable care of patients. American Journal of Managed Care. 2005; 10:SP45–53. (special). [PubMed: 15481436]
42. Brach C, Fraser I. Can cultural competency reduce racial and ethnic health disparities? A review and conceptual model. Medical Care Research and Review. 2000; 57(suppl 1):181–217. [PubMed: 11092163]
43. Carrillo JE, Green AR, Betancourt JR. Cross-cultural primary care: a patient-based approach. Annals of Internal Medicine. 1999; 130(10):829–834. [PubMed: 10366373]

$watermark-text $watermark-text $watermark-text

44. Saha S, Komaromy M, Koepsell TD, Bindman AB. Patient-physician racial concordance and the perceived quality and use of health care. Archives of Internal Medicine. 1999; 159(9):997–1004. [PubMed: 10326942]
45. Duke MR, Mateo W. Disparities in Access to Behavioral Health Services for Puerto Rican-Descended Adolescents. Human Organization. 2008; 67(1):68–76.
46. Malgady RG, Zayas LH. Cultural and linguistic considerations in psychodiagnosis with Hispanics: The need for an empirically informed process model. Social Work. 2001; 46(1):39–49. [PubMed: 11217492]
47. Flicker SM, Waldron HB, Turner CW, Brody JL, Hops H. Ethnic matching and treatment outcome with Hispanic and Anglo substance-abusing adolescents in family therapy. Journal of Family Psychology. 2008; 22(3):439–447. [PubMed: 18540772]
48. Gamst G, Dana RH, Der-Karabetian A, Kramer T. Ethnic match and treatment outcomes for child and adolescent mental health center clients. Journal of Counseling and Development. 2004; 82(4): 457–465.
49. Quintero GA, Lilliott E, Willging C. Substance abuse treatment provider views of "culture": implications for behavioral health care in rural settings. Qualitative Health Research. 2007; 17(9): 1256–1267. [PubMed: 17968042]
50. Gone JP. Mental Health Services for Native Americans in the 21st Century United States. Professional Psychology: Research and Practice. 2004; 35(1):10–18.
51. Costello EJ, Farmer EM, Angold A, Burns BJ, Erkanli A. Psychiatric disorders among American Indian and white youth in Appalachia: the Great Smoky Mountains Study. American Journal of Public Health. 1997; 87(5):827–832. [PubMed: 9184514]
52. Gone JP. "We Never was Happy Living Like a Whiteman": Mental Health Disparities and the Postcolonial Predicament in American Indian Communities. American Journal of Community Psychology. 2007; 40(3–4):290–300. [PubMed: 17906926]
53. Archibald, ME. Research in the Sociology of Health Care. Vol. 25. Emerald Group Publishing Limited; 2008. Socioeconomic and racial/ethnic disparities in substance abuse treatment provision, treatment needs and utilization; p. 171-200.
54. Jones DL, Heflinger CA, Saunders RC. The ecology of adolescent substance abuse service utilization. American Journal of Community Psychology. 2007; 40(3–4):345–358. [PubMed: 17906925]
55. Kessler RC, Aguilar-Gaxiola S, Berglund P, et al. Patterns and predictors of treatment seeking after onset of a substance use disorder. Archives of General Psychiatry. 2001; 58(11):1065–1071. [PubMed: 11695954]
56. Gonzalez J, Alegría M, Prihoda T. How do attitudes toward mental health treatment vary by age, gender and ethnicity/race in young adults? Journal of Community Psychology. 2005; 33(5):611–629.
57. Dana RH. Mental health services for African Americans: A cultural/racial perspective. Cultural Diversity and Ethnic Minority Psychology. 2002; 8(1):3–18. [PubMed: 12092426]
58. Lopez SR. Patient variable biases in clinical judgment: conceptual overview and methodological considerations. Psychological Bulletin. 1989; 106(2):184–203. [PubMed: 2678201]
59. Takeuchi D, Bui K, Kim L. The referral of minority adolescents to community mental health centers. Journal of Health and Social Behavior. 1993; 34:153–164. [PubMed: 8277127]
60. McKay MM, Bannon WM Jr. Engaging families in child mental health services. Child and Adolescent Psychiatric Clinics of North America. 2004; 13(4):905–921. [PubMed: 15380788]
61. Yeh M, McCabe K, Hough RL, Dupuis D, Hazen A. Racial/ethnic differences in parental endorsement of barriers to mental health services for youth. Mental Health Services. 2003; 5(2): 65–77.
62. Walker JS. Caregivers' Views on the Cultural Appropriateness of Services for Children with Emotional or Behavioral Disorders. Journal of Child and Family Studies. 2001; 10(3):315–331.
63. McLoyd VC. The impact of economic hardship on Black families and children: Psychological distress, parenting, and socioemotional development. Child Development. 1990; 61(2):311–346. [PubMed: 2188806]

64. Cornelius JR, Pringle J, Jernigan J, Kirisci L, Clark DB. Correlates of mental health service utilization and unmet need among a sample of male adolescents. Addictive Behaviors. 2001; 26(1):11–19. [PubMed: 11196284]

65. Shin SH, Brown TA. Racial and Ethnic Disparities in Caregiver Strain and the Use of Child Mental Health Services: A Structural Equation Model. Psychiatric Services. 2009; 60(8):1039. [PubMed: 19648190]

66. Nock MK, Kazdin AE. Parent expectancies for child therapy: Assessment and relation to participation in treatment. Journal of Child and Family Studies. 2001; 10(2):155–180.

67. Weisz JR, Weiss B. Studying the "referability" of child clinical problems. Journal of Consulting and Clinical Psychology. 1991; 59(2):266–273. [PubMed: 2030187]

68. Arcia E, Fernandez MC. From awareness to acknowledgment: The development of concern among Latina mothers of children with disruptive behaviors. Journal of Attention Disorders. 2003; 6(4): 163. [PubMed: 12931074]

69. Moses T. Parents' Conceptualization of Adolescents' Mental Health Problems: Who Adopts a Psychiatric Perspective and Does It Make a Difference? Community Mental Health Journal. 2009 (Epub ahead of print).

70. Borowsky SJ, Rubenstein LV, Meredith LS, Camp P, Jackson-Triche M, Wells KB. Who is at risk of nondetection of mental health problems in primary care? Journal of General Internal Medicine. Jun; 2000 15(6):381–388. [PubMed: 10886472]

71. D'Amico EJ, Anderson KG, Metrik J, Frissell KC, Ellingstad T, Brown SA. Adolescent Self-Selection of Service Formats: Implications for Secondary Interventions Targeting Alcohol Use. The American Journal on Addictions. 2006; 15(Suppl 1):58–66. [PubMed: 17182421]

72. Marsh JC, Cao D, Guerrero E, Shin HC. Need-service matching in substance abuse treatment: Racial/ethnic differences. Evaluation and Program Planning. 2009; 32(1):43–51. [PubMed: 19019434]

73. Brooks TL, Harris SK, Thrall JS, Woods ER. Association of adolescent risk behaviors with mental health symptoms in high school students. Journal of Adolescent Health. 2002; 31(3):240–246. [PubMed: 12225736]

74. Gelhorn H, Hartman C, Sakai J, et al. Toward DSM-V: An Item Response Theory Analysis of the Diagnostic Process for DSM-IV Alcohol Abuse and Dependence in Adolescents. Journal of the American Academy of Child & Adolescent Psychiatry. 2008; 47(11):1329–1339. [PubMed: 18827724]

75. Wu LT, Ringwalt CL, Yang C, Reeve BB, Pan JJ, Blazer DG. Construct and Differential Item Functioning in the Assessment of Prescription Opioid Use Disorders Among American Adolescents. Journal of the American Academy of Child & Adolescent Psychiatry. 2009; 48(5): 563–572. [PubMed: 19318987]

76. Turner WC, Muck RD, Muck RJ, Stephens RL, Sukumar B. Co-occurring disorders in the adolescent mental health and substance abuse treatment systems. Journal of Psychoactive Drugs. 2004; 36(4):455–462. [PubMed: 15751483]

77. Chisolm DJ, Mulatu MS, Brown JR. Racial/ethnic disparities in the patterns of co-occurring mental health problems in adolescents in substance abuse treatment. Journal of Substance Abuse Treatment. 2009; 37(2):203–210. [PubMed: 19195815]

78. Gudiño OG, Lau AS, Hough RL. Immigrant Status, Mental Health Need, and Mental Health Service Utilization Among High-Risk Hispanic and Asian Pacific Islander Youth. Child and Youth Care Forum. 2008; 37(3):139–152.

79. Goldstein RB, Olfson M, Martens EG, Wolk SI. Subjective unmet need for mental health services in depressed children grown up. 2006; 33(6):666–673.

80. Abram KM, Paskar LD, Washburn JJ, Teplin LA. Perceived barriers to mental health services among youths in detention. Journal of the American Academy of Child & Adolescent Psychiatry. 2008; 47(3):301–308. [PubMed: 18216738]

81. Mulatu, MS.; Godette, DC.; Randolph, SM.; Leonard, KJ.; Pettibone, K. Racial/ethnic Disparities in Patterns and Correlates of Adolescent Treatment Completion from Publicly Funded Outpatient Substance Abuse Treatment Programs. APHA 137th Annual Meeting and Expo; Philadelphia, PA. 2009.

$watermark-text
$watermark-text
$watermark-text

82. Campbell SB, Spieker S, Burchinal M, Poe MD. Trajectories of aggression from toddlerhood to age 9 predict academic and social functioning through age 12. Journal of Child Psychology and Psychiatry. 2006; 47(8):791–800. [PubMed: 16898993]

83. Zand D, Thomson NR, Dugan M, Braun JA, Holterman-Hommes P, Hunter PL. Predictors of retention in an alcohol, tobacco, and other drug prevention study. Evaluation Review. 2006; 30(2): 209–222. [PubMed: 16492999]

84. Huey SJ Jr, Polo AJ. Evidence-Based Psychosocial Treatments for Ethnic Minority Youth. Journal of clinical child and adolescent psychology: the official journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division53. 2008; 37(1):262.

85. Liddle HA, Dakof GA, Parker K, Diamond GS, Barrett K, Tejeda M. Multidimensional family therapy for adolescent drug abuse: Results of a randomized clinical trial. The American Journal of Drug and Alcohol Abuse. 2001; 27(4):651–688. [PubMed: 11727882]

86. Liddle HA, Rowe CL, Dakof GA, Ungaro RA, Henderson CE. Early intervention for adolescent substance abuse: Pretreatment to posttreatment outcomes of a randomized clinical trial comparing multidimensional family therapy and peer group treatment. Journal of Psychoactive Drugs. 2004; 36(1):49–63. [PubMed: 15152709]

87. Resnicow K, Soler R, Braithwaite RL, Ahluwalia JS, Butler J. Cultural sensitivity in substance use prevention. Journal of Community Psychology. 2000; 28(3):271–290.

88. Griner D, Smith TB. Culturally adapted mental health intervention: A meta-analytic review. Psychotherapy: Theory, Research, Practice, Training. 2006; 43(4):531–548.

89. Kurtines WM, Szapocznik J. Cultural competence in assessing Hispanic youths and families: challenges in the assessment of treatment needs and treatment evaluation for Hispanic drug-abusing adolescents. Adolescent Drug Abuse: Clinical Assessment and Therapeutic Interventions. 1995; 156:172–189.

90. Gil AG, Wagner EF, Tubman JG. Culturally sensitive substance abuse intervention for Hispanic and African American adolescents: empirical examples from the Alcohol Treatment Targeting Adolescents in Need (ATTAIN) Project. Addiction. 2004; 99(s2):140–150. [PubMed: 15488112]

91. Robbins MS, Szapocznik J, Dillon FR, Turner CW, Mitrani VB, Feaster DJ. The efficacy of structural ecosystems therapy with drug-abusing/dependent African American and Hispanic American adolescents. Journal of Family Psychology. 2008; 22(1):51–61. [PubMed: 18266532]

92. Canino G. Alcohol Use Disorder and Associated Disabilities Interview Schedule. Journal of Studies on Alcohol. 1999; 60(6):790–799. [PubMed: 10606491]

93. Henggeler SW, Pickrel SG, Brondino MJ. Multisystemic treatment of substance-abusing and-dependent delinquents: Outcomes, treatment fidelity, and transportability. Mental Health Services Research. 1999; 1(3):171–184. [PubMed: 11258740]

94. Henggeler SW, Clingempeel WG, Brondino MJ, Pickrel SG. Four-year follow-up of multisystemic therapy with substance-abusing and substance-dependent juvenile offenders. Journal of the American Academy of Child & Adolescent Psychiatry. 2002; 41(7):868–874. [PubMed: 12108813]

95. Santisteban DA, Coatsworth JD, Perez-Vidal A, et al. Efficacy of brief strategic family therapy in modifying Hispanic adolescent behavior problems and substance use. Journal of Family Psychology. 2003; 17(1):121–133. [PubMed: 12666468]

96. Robbins, MS.; Schwartz, SJ.; Szapocznik, J. Structural ecosystems therapy with adolescents exhibiting disruptive behavior disorders. In: Ancis, J., editor. Culturally based interventions: Alternative approaches to working with diverse populations and culture bound syndromes. New York: Brunner-Routledge; 2004. p. 71-99.

97. Botvin GJ, Griffin KW, Diaz T, Ifill-Williams M. Drug abuse prevention among minority adolescents: Posttest and one-year follow-up of a school-based preventive intervention. Prevention Science. 2001; 2(1):1–13. [PubMed: 11519371]

98. Botvin GJ, Griffin KW, Diaz T, Ifill-Williams M. Preventing binge drinking during early adolescence: One-and two-year follow-up of a school-based preventive intervention. Psychology of Addictive Behaviors. 2001; 15(4):360–365. [PubMed: 11767269]

$watermark-text $watermark-text $watermark-text

99. Johnson KW, Shamblen SR, Ogilvie KA, Collins D, Saylor B. Preventing Youths' Use of Inhalants and Other Harmful Legal Products in Frontier Alaskan Communities: A Randomized Trial. Prevention Science. 2009; 10(4):298–312. [PubMed: 19440837]

100. Ringwalt CL, Vincus A, Ennett S, Johnson R, Rohrbach LA. Reasons for teachers' adaptation of substance use prevention curricula in schools with non-White student populations. Prevention Science. 2004; 5(1):61–67. [PubMed: 15058914]

101. Castro FG, Barrera M, Martinez CR. The cultural adaptation of prevention interventions: Resolving tensions between fidelity and fit. Prevention Science. 2004; 5(1):41–45. [PubMed: 15058911]

102. Anglin MD, Brecht L, Maddahian E. Pretreatment Characteristics and Treatment Performance of Legally Coerced Versus Voluntary Methadone Maintenance Admissions. Criminology. 1989; 27(3):537–557.

103. Santisteban D, Vega RR, Suarez-Morales L. Utilizing dissemination findings to help understand and bridge the research and practice gap in the treatment of substance abuse disorders in Hispanic populations. Drug and Alcohol Dependence. 2006; 84(S1):S94–S101. [PubMed: 16828985]

104. Agency for Healthcare Research and Quality. National Healthcare Disparities Report 2008. AHRQ Publication No 09-0002. 2009. Retrieved August 28, 2010, from AHRQ website: www.ahrq.gov/qual/qrdr08.htm

$watermark-text

$watermark-text

$watermark-text

$watermark-text $watermark-text $watermark-text

Table 1

Service use for adolescents with past year substance abuse or dependence

	Non-Latino White		Latino		Asian		Black	
Total N	43778		10109		2481		12257	
Past Year Substance								
Abuse or Dependence	4000		529		119		1060	
%	8.98%		4.98%		3.53%		7.69%	
	Mean	**SE**	**Mean**	**SE**	**Mean**	**SE**	**Mean**	**SE**
NSDUH Specialty Treatment	7.09%	0.45%	5.16%	1.50%	9.48%	4.55%	4.46%	1.06% *
NSDUH Informal Treatment	5.19%	0.51%	2.96%	0.98% *	4.42%	2.67%	3.09%	0.78% *

Note: *Specialty treatment in the last 12 months* indicates any inpatient hospital overnight services, residential rehabilitation, outpatient rehabilitation, outpatient mental health facility, private doctor's office for drugs or alcohol services and halfway house. *Informal treatment* indicates self-help groups and religious or spiritual services. NSDUH = National Survey on Drug Use and Health.

* $p<0.05$