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Permalink

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Journal

Substance Use & Misuse, 49(6)

ISSN

1082-6084

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Publication Date

2014-05-12

DOI

10.3109/10826084.2013.866962

Peer reviewed



Published in final edited form as:

Subst Use Misuse. 2014 May ; 49(6): 743–751. doi:10.3109/10826084.2013.866962.

Barriers to Drug Use Behavior Change Among Primary Care Patients in Urban United States Community Health Centers

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Abstract

In 2011 and 2012, 147 patients in urban United States Community Health Centers who misused drugs, but did not meet criteria for drug dependence, received a brief intervention as part of a National Institute on Drug Abuse-funded clinical trial of a screening and brief intervention protocol. Potential study participants were identified using the World Health Organization (WHO) Alcohol, Smoking, and Substance Involvement Screening Test. Data gathered during brief interventions were analyzed using grounded theory strategies to identify barriers patients believed inhibited drug use behavior change. Numerous perceived barriers to drug use behavior change were identified. Study implications and limitations are discussed.

Keywords

SBIRT; brief intervention; drug use behavior change; community health centers; primary care

INTRODUCTION

Over 22 million people in the United States need treatment for substance use disorders (SUD) (Substance Abuse and Mental Health Services Administration, 2011), and another 68 million use drugs and/or alcohol in a risky manner (Humphreys & McLellan, 2010). These individuals often need medical care because of psychoactive substances' adverse effects on physical health (National Center on Addiction and Substance Abuse, 2012; Stein, 1999) and mental health (Center for Substance Abuse Treatment, 2005; Mueser, Drake & Wallach, 1998). Approximately 23% of primary care patients are either at risk because of their substance use or have SUD (Brown, Leonard, Saunders & Papasouliotis, 2001; Madras et

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Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

al., 2009), making medical visits ideal times to identify and treat individuals who misuse drugs and/or alcohol.

Through Screening, Brief Intervention, and Referral to Treatment (SBIRT) protocols, health care providers can identify patients who misuse psychoactive substances, deliver brief intervention services to reduce substance use among those who are at risk, and facilitate referral to specialty SUD care if necessary (Babor et al., 2007; Madras et al., 2009). Brief interventions delivered to individuals who use alcohol in an unhealthy manner can reduce the average number of drinks they consume per week by 13% to 34%, and bring overall levels of alcohol consumption down to moderate or safe levels (Whitlock, Polen, Green, Orleans & Klein, 2004). Evidence concerning the efficacy of brief interventions for drug use is more mixed (Babor et al., 2007; Madras et al., 2009), though promising. Studies with small sample sizes indicate that brief interventions can lead to reductions in drug use among users of marijuana (Copeland, Swift, Roffman & Stephens, 2001; McCambridge & Strang, 2004), cocaine (Stotts, Schmitz, Rhoades & Grabowski, 2001; Bernstein et al., 2005), and heroin (Bernstein et al., 2005), and participants in a large multi-site SBIRT initiative reported rates of drug use that were 67.7% lower than baseline at 6-month follow-up (Madras et al., 2009).

Given SBIRT's potential to reduce the frequency and intensity of substance use among at-risk populations, the Obama Administration has launched initiatives to promote the delivery of SBIRT services in medical settings nationwide (Humphreys & McLellan, 2010), particularly in the network of publicly funded Community Health Centers (CHCs) that will serve the majority of Americans who will gain insurance coverage under the Affordable Care Act (ACA) (Buck, 2011; Humphreys & McLellan 2010). With the pending expansion of SBIRT services into CHCs, research is needed on how to tailor SBIRT interventions to better meet the needs of CHC patients. Furthermore, research is needed to determine how SBIRT protocols can be improved to more effectively address not only risky alcohol consumption, but also drug use, among CHC patients.

The present study will inform SBIRT protocols and strategies by identifying the obstacles that CHC patients who misuse drugs, but do not meet diagnostic criteria for SUD, believe prevent them from changing their drug use behaviors. Enhanced understanding of what discourages these individuals from reducing the frequency and intensity of their drug use can be used to improve strategies to facilitate drug use behavior change. Though a growing body of literature describes what motivates individuals to initiate and maintain drug use (e.g. Hartwell, Back, McRae-Clark, Shaftman & Brady, 2012; Müller & Schumann, 2011; Rigg & Ibanez, 2010), little research to date has explored the barriers that prevent individuals who are at risk because of their drug use, but do not meet diagnostic criteria for dependence, from changing their behaviors. Improved knowledge of the barriers to reducing drug use among this population is needed to enhance SBIRT's capacity to affect drug use behavior change before problematic drug use evolves into drug dependence. Moreover, enhanced understanding of these barriers among the CHC patient population is needed to inform the development of SBIRT protocols and strategies as they are implemented in more CHCs under healthcare reform.

Our principal aims in this paper are to (1) identify barriers that CHC patients who receive SBIRT services for drug misuse perceive as obstacles that inhibit them from changing their drug use behaviors, and (2) determine if specific barriers are more or less common among users of any particular classes of drugs in the CHC population.

METHODS

Data were gathered from a randomized controlled trial of the Quit Using drugs Intervention Trial (QUIT) SBIRT protocol to reduce drug use among adult patients who are at risk because of drug use behaviors and utilize primary care services in CHCs. Participants who visited clinics for primary care services were recruited from waiting rooms of six large CHCs in a major United States metropolitan area from February 2011 to November 2012. Patients completed self-administered versions of the World Health Organization's Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) to screen for risky use of various drugs (Humenuik, Dennington & Ali, 2008). Those determined to be at risk because of illicit or prescription drug use misuse (ASSIST scores between 4 and 26) were identified and consented for the study. Patients with ASSIST scores of 27 or higher were excluded from the study, and connected with their primary care providers to be evaluated for specialty SUD care.

Participants were assigned to one of two groups: a control group that received health information concerning cancer screening, or an intervention group that received the QUIT intervention. Subjects in the QUIT group received very brief clinician advice (under 5 minutes) about the health consequences of drug use and advice on how to reduce the frequency and intensity of their drug use. Intervention recipients then participated in follow-up 20-to 30-minute telephone sessions with one of six health educators 2 and 6 weeks later. The health education sessions were semi-structured, and all sessions included the following components: health educators reinforcing clinician messages concerning the health consequences of drug use; health educators assessing participant motivation and willingness to reduce the frequency and intensity of their drug use; health educators and participants discussing challenges that participants found made reducing drug use more difficult; health educators and participants discussing factors that promoted drug use behavior change; health educators and participants jointly devising strategies that participants could use to change their drug use behaviors; and health educators providing participants with information about community resources that could be of assistance as they worked to change their drug use behaviors. Health educators then documented the content of all follow-up sessions in field notes that were written during or immediately after the telephone sessions on structured grids that had separate sections for detailed notes on participant reactions to the intervention, motivation to change, barriers to drug use behavior change, potential facilitators of drug use behavior change, potential strategies to change drug use behaviors, and information/referrals that health educators provided to participants during the course of their discussion. Health educator notes in each section of the grid ranged from a sentence to a few paragraphs in length.

Interventions focused on the use of just one class of drug, even if patients reported polydrug use on the ASSIST; if misuse of other psychoactive substances was identified during the

screening process, use of these substances was briefly addressed during health educator sessions as well. If participants had ASSIST scores between 4 and 26 for stimulants (crack/cocaine or methamphetamine/amphetamine-like substances), interventions focused on stimulant use; if they did not score in this range for stimulant use, interventions focused on the drug for which they scored the highest on the ASSIST.

Three members of the research team analyzed health educator field notes from the 2-week follow-up sessions of the 147 study participants who participated in health educator sessions 2 weeks after receiving clinician advice. Using grounded theory coding strategies (Glaser & Strauss, 1967), the researchers created codes that captured themes (Ryan & Bernard, 2003) that emerged as participants discussed obstacles that could prevent them from reducing the frequency or intensity of their drug use. Sessions were then double-coded by two researchers to assure intercoder reliability (Ryan & Bernard, 2003). In cases where there were disagreements in coding, the researchers discussed differences until they reached consensus on final codes. Statistical analyses of differences between the proportion of respondents in each drug use category were conducted using Fisher's exact tests (Upton, 1992).

All study procedures received approval from the University of California, Los Angeles Office for Protection of Research Subjects Human Research Protection Program Institutional Review Board.

RESULTS

The majority of the sample was male, age 35 and older, and white. The mean ASSIST score was 12.97, with the majority (63.9%) reporting low levels of risky drug use (ASSIST scores 15) (Humeniuk et al., 2008). The most common substance targeted in the intervention was marijuana (54.0%), followed by stimulants (crack, cocaine, and amphetamine-type substances) (33.3%), and sedatives/opioids (12.2%). (See Table 1)

Most Commonly Mentioned Barriers to Reducing Drug Use (See Table 2)

Needing Drugs to Alleviate Mental or Emotional Distress—Nearly half (49.7%) of patients who received the QUIT intervention cited use of drugs to relieve psychological or emotional suffering as a barrier to reducing drug use. Most patients who cited this as a barrier reported that they relied on drugs as a form of self-medication for vaguely described anxieties, stresses, or feelings of depression. They also mentioned specific problems, issues, and emotional events from their past that were effectively soothed by drugs' hedonic and sedating effects. Many patients who mentioned this barrier brought up histories of abuse or trauma, and reported that drugs helped them "cover" or "forget" past experiences when unpleasant memories were triggered or caused discomfort.

Several participants who reported that they used drugs for psychological comfort mentioned that medical professionals had formally diagnosed them with psychiatric disorders, but that their conditions were not adequately being treated. Some patients reported that this was because they did not have access to the behavioral health services they needed. Others told health educators that they used illicit drugs instead of prescribed psychotropic medications

out of choice, since they did not like the side effects of mental health pharmaceuticals, and believed that illicit drugs (particularly marijuana) were more “natural” remedies.

Proximity to People or Places Associated with Drug Use—Over 41% of participants (41.5%) reported that in spite of motivation to abstain from drug use, it was difficult to avoid because drugs and drug users were pervasive in their environments. These patients reported that a significant portion of their friends and family members were active drug users, and that they lacked a drug-free social network to turn to if they were to stop using drugs. Participants who were homeless or lived in socio-economically disadvantaged neighborhoods where drug use was endemic reported similar challenges, telling health educators that it was difficult to abstain when constantly surrounded by people who were either using drugs or had drugs on hand. Resisting the temptation to use drugs was often particularly difficult, they reported, because it was not uncommon for friends, family, or acquaintances to offer them drugs free of charge.

Belief that Drug Use Enhances Quality of life or Functioning—Approximately one-third of participants (35.4%) reported that they were reluctant or unwilling to reduce drug use because it either improved their overall quality of life or enhanced their functioning. Many patients reported that they did not want to reduce their drug use simply because they enjoyed it; they liked the subjective feelings of relaxation, exhilaration, and euphoria associated with “getting high,” and did not want to get them up. For several participants, drugs served a “spiritual” function, and they reported that drug use was an integral part of their social and cultural lives. For these individuals, drugs were critical elements of their lifestyles, part of a broader self-identity that also revolved around art, music, creativity, a rejection of consumerism, and active participation in an alternative “hippie” lifestyle.

For other participants, the perceived benefits of drug use were more instrumental, and directly related to specific tasks, activities, or goals. Patients reported that they were more creative, energetic, focused, and productive when they were under the influence of drugs than when they were sober. Consequently, they used drugs as tools to enhance their performance, even while at work or doing household chores. For many participants, drugs were lifestyle enhancement tools, useful for weight control, or to enhance sexual intercourse. Many patients also reported that drugs helped enhance their lifestyle by making it easier to reduce their intake of other substances—such as alcohol and tobacco—which they believed were more harmful to their health.

Needing Drugs to Alleviate Physical Pain or Discomfort—Slightly more than one-quarter of participants (27.2%) reported that they would have difficulty reducing drug use because they relied on drugs to manage physical pain or discomfort. Patients who reported this barrier used drugs to manage pain for a variety of health conditions, including arthritis, peripheral neuropathy, irritable bowel syndrome, hip pain, hepatitis, and cancer. In addition, many patients told health educators that they used drugs to manage pain associated with accidents or injuries. Participants who mentioned this barrier highlighted that they used drugs to manage pain not out of choice, but out of necessity. For patients who lived in communities where drugs were abundant but pain management services were difficult to get,

drugs were the most accessible form of pain relief available. Citing transportation barriers that limited access to specialty clinical care, difficulties navigating the health system, and frustrations dealing with insurance providers who would not cover necessary treatments, these patients reported that they had little desire to stop using illicit drugs, as they were the only means of pain relief available to them.

Drug Use Being Habitual/Fearing Consequences of Stopping Drug Use—Just over one-fifth of participants (20.4%) mentioned that they felt “addicted” to drugs or that they feared experiencing physical or emotional discomfort if they stopped using drugs. Though none of these individuals scored above 27 on the ASSIST, they all expressed reticence to quit because they feared withdrawal symptoms or a resurgence of the mental or physical problems that drugs helped them manage. Participants who reported this barrier had slightly higher ASSIST scores (mean of 13.20) than the rest of the sample (12.91) and a greater proportion of them reported high rates of substance involvement (scores of 16–26) on the ASSIST (40.0% vs. 35.0%).

Drug Use Hard to Stop Due to Challenges Associated with Poverty, Homelessness—Nearly 13% of participants in the sample (12.9%) mentioned poverty and homelessness as barriers that would make it more difficult for them to reduce their drug use. Most patients who mentioned these factors discussed how their socio-economic situation increased their exposure to other barriers, such as proximity to drugs, emotional distress, and physical discomfort. Many of these patients reported that if they could improve their housing situation and gain financial stability, they would be more likely to reduce their drug use or abstain from drug use altogether.

Prevalence of Barriers to Drug Use Behavior Change by Type of Drug Used (See Table 3)

Overall, the type of drug respondents used (marijuana, stimulants, sedatives/opioids) was significantly associated with four of the six major barriers to drug use behavior change that emerged in the analysis: proximity to people/places associated with drug use ($p = .001$), use of drugs to enhance functioning/quality of life ($p = .001$), use of drugs to alleviate physical pain/discomfort ($p = .001$), and difficulty changing drug use behaviors because of barriers related to poverty or homelessness ($p = .010$).

Barriers to drug use behavior change that involved the use of drugs to alleviate mental or emotional distress were prevalent among users of all substances, with a slightly higher proportion of users of stimulants (51.0%) and marijuana (50.0%) reporting these barriers than users of sedatives and opioids (38.9%). Regarding the utilization of drugs to improve quality of life or functioning, many users of marijuana (43.8%) and stimulants (34.7%) reported this barrier, compared to no users of sedatives and opioids. Half (50.0%) of sedative/opioid users reported barriers related to needing drugs to cope with physical pain, compared to 35% of marijuana users and just 6.1% of stimulant users; the difference between the prevalence of this barrier among marijuana users and stimulant users was statistically significant (both $p < .001$). The highest proportion of participants who cited habit or fear of negative symptoms if they stopped using drugs was found among users of

sedatives/opioids (27.8%), compared to 20.4% of stimulant users and 18.8% of marijuana users.

Over 60% of participants who used stimulants cited proximity to people and places associated with drug use as a barrier to behavior change, compared to 33.8% of marijuana users and 16.7% of individuals who used sedatives/opioids. Both the overall and paired differences were statistically significant, as users of stimulants were more likely to cite barriers related to proximity to people and places associated with drug use than users of both marijuana ($p = .002$) and sedatives/pain relievers ($p = .001$). Participants who used stimulants also mentioned barriers related to poverty and homelessness more often than users of other substances; whereas nearly a quarter (24.5%) of stimulant users mentioned poverty and homelessness as inhibitors of drug use behavior change in their health education sessions, marijuana users mentioned these barriers less than 10% of the time (8.8%), and no users of sedatives or opioids mentioned them at all. These paired differences were statistically significant, as users of stimulants were more likely to cite barriers related to poverty and homelessness than users of both marijuana ($p = .021$) and sedatives/opioids ($p = .027$).

DISCUSSION

The data gathered in this study reveal the principal self-identified barriers that may inhibit CHC patients who misuse drugs, but have not reached the stage of dependence, from reducing the frequency and intensity of their drug use. These patients are most appropriate for brief interventions in primary care settings such as CHCs, rather than referral to specialty SUD care. Improved understanding of the barriers that inhibit drug use behavior change among this population can be used to tailor brief intervention strategies that are used with the population that receives SBIRT services in CHCs.

The most commonly cited barriers to drug use behavior change were needing drugs to alleviate mental or emotional distress, proximity to people or places associated with drug use, and utilization of drugs to improve quality of life or functioning. Less common, but still prevalent, barriers included needing drugs to alleviate physical pain or discomfort, habit and fear of stopping drug use, and challenges associated with poverty and homelessness.

Many of the barriers to quitting mentioned by participants in this study are closely related to the perceived benefits of drug use, and correspond to the motives cited in other studies that explore why people initiate and maintain drug use behaviors. Prior studies of drug use motivation show that drug users utilize substances as “instruments” (Müller & Schumann, 2011) to cope with mental distress (Boys, Marsden & Strang, 2001; Diaz, Heckert & Sanchez, 2005; Hartwell et al., 2012; McCabe, Cranford, Boyd, & Teter, 2007; Rigg & Ibanez 2010), relieve physical discomfort (Hartwell et al., 2012; McCabe, Boyd & Teter, 2009; McCabe et al., 2007), or improve functioning and performance (Boys et al., 2001; Diaz et al., 2005; Rigg & Ibanez, 2010). Participants in drug use motivation studies also report enjoyment of drug use (Boys et al., 2001; Hartwell et al., 2012; Lee, Neighbors & Woods, 2007; McCabe et al., 2009; McCabe et al., 2007; Rigg & Ibanez 2010), urges to use (Hartwell et al., 2012), fear of withdrawal (Rigg & Ibanez, 2010), and social pressure (Diaz,

Heckert, & Sanchez, 2005; Hartwell et al., 2012; Lee, Neighbors, & Woods., 2007; Rigg & Ibanez 2010) as reasons they misuse drugs. This study provides qualitative evidence illustrating that many of the factors that motivate individuals to initiate and maintain drug use also act as barriers that may prevent drug users from changing their drug use behaviors (Hartwell et al., 2012; Rigg & Ibanez, 2010). Many of the underlying causes of drug use are also obstacles that may prevent its cessation, so interventions to address drug use behaviors may benefit from borrowing strategies from successful prevention programs.

The study also highlights specific areas that brief intervention efforts for the CHC population should target. To address barriers that are related to the use of drugs to relieve psychological suffering or behavioral health disorders (mentioned by nearly half the sample), providers should tailor interventions to better identify and address the underlying causes of mental and emotional distress. As mental health services become increasingly integrated into CHCs under the ACA (Bao, Casalino & Pincus, 2013; Druss & Mauer, 2010), CHCs will become better equipped to address the behavioral health issues that often underlie problematic substance use behaviors.

Similarly, since many patients (over one-quarter of the sample) report that reliance on drugs to alleviate physical discomfort is a barrier to reducing drug use, providers should work with patients to devise more effective pain management strategies. Many patients reported that they used drugs as alternatives to formal treatment because of shortcomings in health interventions (e.g. medication side effects), or difficulty accessing services. To mitigate these concerns, brief interventions should focus on facilitating better access to appropriate and effective healthcare. High proportions of users of sedative/opioids and marijuana mentioned needing drugs to assuage physical discomfort as a barrier to drug use behavior change, and the association of this barrier with sedative/opioid use was statistically significant when compared to the use of other substances ($p < .01$). Consequently, interventions targeting individuals who use these substances should incorporate strategies to link patients with the medical care they need. As CHCs begin implementing more integrated team approaches to patient care under the ACA (Bao et al., 2013; Druss & Mauer, 2010), they will be better able to address the underlying physical and medical problems that are associated with substance misuse.

To overcome barriers related to patient perceptions that drugs improve their quality of life or enhance functioning (mentioned by approximately one-third of participants), interventions should focus on devising ways that patients can achieve these positive ends without using drugs. For patients who enjoy the subjective experience of drug use or consider drugs to be a part of their “identity,” providers should work to identify ways they can experience similar pleasures or participate in similar activities without taking recourse to drugs. Similarly, for patients who use drugs to improve their functioning, providers should help devise strategies to maintain the gains they associate with drug use, but without utilizing drugs to achieve them. Since users of marijuana and cocaine/crack are particularly likely to cite these concerns, interventions targeting the use of these substances should incorporate elements to address these issues.

To address barriers related to the proximity to people and places associated with drugs (mentioned by over 41% of participants), brief interventions should focus on linking patients with drug-free activities, social networks, and neighborhoods. For patients who report that issues associated with poverty or homelessness inhibit drug use behavior change, interventions should incorporate steps to connect patients with social services and other resources that can help them overcome socio-economic challenges. Since these barriers were particularly prevalent among users of stimulant drugs than users of other substances and significantly associated with stimulant use, these strategies may be particularly useful in interventions with stimulant users.

To assuage the concerns of patients who report that they are unable or unwilling to reduce drug use because it is habitual or because they fear withdrawal symptoms, providers should deliver services that can help patients manage the potential emotional and physical distress associated with drug use. Notably, more than half of patients who reported this barrier (60.0%) had low levels of substance involvement, so providers should be prepared to deliver services to address concerns about withdrawal or the negative consequences of abstinence even to patients who use drugs infrequently. In more severe cases, however, consultation or collaboration with specialty SUD treatment providers may be necessary.

Notably, many of these barriers are complex, and require more than a simple brief intervention to be addressed. Drug users may require intensive and comprehensive services to manage challenges related to untreated or undertreated medical and mental health conditions, poor access to care, and socioeconomic problems. When serving these individuals, providers may need to integrate brief interventions into broader care management and patient-centered strategies for serving patients with complex service needs. As Patient-Centered Medical Homes and other service delivery models designed to address the full range of clients' health-related needs become more common across the health system in the future (Bao et al., 2013; Druss & Mauer, 2010), service providers will have greater opportunities to provide the full range of services needed to address the barriers to drug use behavior change identified in this study.

The main limitations of the study are related to the sample, which differs from the population likely to be treated in other CHCs and primary care offices. Study clinics were selected because they were located in communities where illegal drug use—and stimulant use in particular—is prevalent, and drug use patterns in these areas may differ from those that are common elsewhere. In areas where rates of drug use are different, the distributions of barriers to drug use behavior change would probably differ from that reported in this study. Furthermore, because of the low number of participants whose highest scoring drug in the risky drug use range were sedative and opioid users, our conclusions concerning the barriers preventing patients who misuse these drugs from changing their drug use behaviors are more tentative than are our conclusions concerning individuals who use other substances. Lastly, rates of drug use and barriers to drug use behavior change may differ for patients who meet criteria for drug dependence, who were not the focus of this study.

In spite of these limitations, this study sheds light on the barriers that CHC patients receiving SBIRT services for drug use cite as factors that inhibit drug use behavior change.

This knowledge should help inform SBIRT protocols to address drug misuse in CHCs, and ultimately help reduce the negative impact substance misuse has on health in the United States.

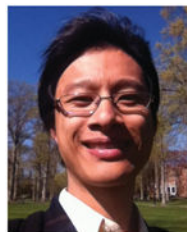
Acknowledgments

Research for this report was supported by grants from the National Institute on Drug Abuse (NIDA T32DA07272 and NIDA R01DA02245), and the UCLA Clinical and Translational Science Institute (NCRR UCLA CTSI UL1TR000124).

Biographies



Dr. Howard Padwa studied at the University of Delaware, the London School of Economics, and the Ecole des Hautes Etudes en Sciences Sociales in Paris before earning his doctorate in History from UCLA. He has worked as a clinic ethnographer and policy researcher on a study of the California Mental Health Services Act, and conducted research on the history of mental health policy in California. His current research interests at UCLA include substance abuse treatment policy, and the integration of mental health and substance abuse treatment services with the primary care system. His book *Social Poison: The Culture and Politics of Opiate Control in Britain and France, 1821–1926* was published by Johns Hopkins University Press in 2012.



Yu-Ming Ni completed his Masters of Science in Human Nutrition from Columbia University and published a paper on his master's thesis research project on the impact of ginger on metabolism. He served as one of the health education coordinators for the NIDA QUIT study and is continuing to serve as health educator as part of the Mount Sinai PRISM study led by Dr. Rosalind Wright. He is currently a second-year medical student at New York Medical College pursuing an MD degree, and he aims to continue to pursue research in clinical nutrition and other fields.



Dr. Yohanna Barth-Rogers is a Family Medicine resident at Long Beach Memorial Medical Center. She studied medicine and global health at the Medical School for International Health at Ben-Gurion University in Israel, in collaboration with Columbia University. While in Israel, she served on multiple medical ethics committees and volunteered for Physicians for Human Rights. Her interests include improving access to health, outreach and street medicine, HIV medicine, and global health.



Lisa Arangua is a Senior Research Analyst at UCLA David Geffen School of Medicine. Ms. Arangua received her bachelors from the University of California, Berkeley, and her MPP from the University of California, Los Angeles. She has worked in academic research on severely underserved health populations for 20 years, both at UC Berkeley and at UCLA. She has worked as Dr. Gelberg's Project Director for the past 15 years. She has managed survey research teams in clinic-based settings for the past 7 years.



Ronald Andersen, Ph.D., is the Wasserman Professor Emeritus in the UCLA Departments of Health Policy and Management, and Sociology. Previously he chaired the Department of Health Policy and Management at UCLA and was Professor at the University of Chicago, serving for 10 years as director of the Center for Health Administration Studies and the Graduate Program in Health Administration. Dr. Andersen has studied access to medical care for his entire professional career of 45 years. He developed the Behavioral Model of Health Services Use that has been used extensively nationally and internationally as a framework for utilization and cost studies including special studies of minorities, low income, children, women, the elderly, oral health, and the homeless. He has directed three national surveys of access to care and has led numerous evaluations to promote access to

care. Of the 25 books and 240 articles he has authored, a large proportion deal with issues of access. He is a member of the Institute of Medicine and has been Chair of the Medical Sociology Section of the American Sociological Association. He is the recipient of the Distinguished Medical Sociologist Leo G. Reeder Award, the Distinguish Investigator Career Award Association for Health Services Research, and the Baxter Allegiance Foundation Health Services Research Prize. He has received an honorary doctorate from Purdue University and is a member of the Royal Society of Sciences at Uppsala Sweden.



Dr. Lillian Gelberg is a family physician, health services researcher, and professor in UCLA's Department of Family Medicine and School of Public Health. She is an elected member of the Institute of Medicine of the National Academy of Sciences, co-director of the UCLA Wireless Health Institute, and associate director of the UCLA Primary Care Research Fellowship. Her current research focuses on clinical trials to promote healthy lifestyle change in low-income populations using leading behavior change methodologies supported by wireless technology. Over the past two decades, Dr. Gelberg has conducted community-based health services research to improve the health of the most vulnerable populations, and has developed the art and science of collecting data under the most difficult field conditions, including the shelters, meal programs, parks, streets, and busy community health centers of Los Angeles County. Dr. Gelberg has served as PI or Co-PI of more than 25 NIH-funded grants, and has published over 100 articles and book chapters. She received the Academy Health 1995 Young Investigator Award and 1997 Article of the Year Award, 2001 Family Practice Excellence in Research Award from the California Academy of Family Physicians (first recipient), George F. Kneller Endowed Chair at the David Geffen School of Medicine at UCLA (first recipient), and 2009 Society of Teachers of Family Medicine's Curtis Hames Award which honors individuals who through the course of their career, have contributed in a major, outstanding manner to the development of family medicine research.

GLOSSARY

Affordable Care Act (ACA)	National healthcare reform legislation in the United States, enacted in 2010. Also known as "healthcare reform," the ACA will expand health coverage to millions of Americans, and reorganize the structure and delivery of health services, particularly in publicly funded clinics
Alcohol, Smoking, and Substance Involvement	A World Health Organization tool that can be used to screen patients in medical settings for SUDs and risky substance use behaviors

Screening Test (ASSIST)

Community Health Centers (CHCs)

A network of primary care clinics funded by the United States Department of Health and Human Services, Health Resources and Services Administration (HRSA). CHCs provide primary care and other health services to many medically underserved, uninsured, and poor patients in the United States. Many individuals who gain access to health care under the ACA will receive care in CHCs

Fisher's Exact Test

A test of statistical significance used with data sets that have smaller sample sizes

Screening, Brief Intervention, and Referral to Treatment (SBIRT)

A comprehensive approach to identifying individuals in medical settings who are at risk because of their substance use behaviors, and providing appropriate treatment. SBIRT involves the use of validated screening instruments to identify individuals who are at risk because of substance use, providing brief intervention services for individuals who are at risk, and providing referrals to specialty substance use disorder care for individuals who are dependent on alcohol or drugs

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TABLE 1

Sample characteristics

Characteristic	<i>N</i> (%) or mean, median
Number of participants	147
Gender	Male <i>N</i> = 94 (63.9%) Female <i>N</i> = 53 (36.1%)
Race (some participants fit more than one category)	White: <i>N</i> = 83 (56.5%) Black: <i>N</i> = 39 (26.5%) Latino: <i>N</i> = 49 (33.3%) Asian/Pacific Islander: <i>N</i> = 6 (4.1%) Native American/Alaska Native <i>N</i> = 9 (6.1%) Other: <i>N</i> = 24 (16.3%)
Age	Mean: 44.1 Median: 47 Age 18–34: <i>N</i> = 31 (21.1%) Age 35–49: <i>N</i> = 61 (41.5%) Age 50+: <i>N</i> = 55 (37.4%)
Level of risky substance involvement on WHO Assist (range 4–26)	Mean ASSIST score: 12.97 Median ASSIST score: 12 Low Risky Use (Assist 4–15): <i>N</i> = 94 (63.9%) High Risky Use (Assist 16–26): <i>N</i> = 51 (36.1%)
Drug targeted in intervention (highest scoring drug on WHO Assist, used in moderate drug use range of 4–26, with focus on stimulant drugs)	Marijuana: <i>N</i> = 80 (54.4%) Stimulants (Cocaine, crack, amphetamine-type substances): <i>N</i> = 49 (33.3%) Sedatives and opioids: <i>N</i> = 18 (12.2%)

TABLE 2

Most commonly cited barriers to drug use behavior change

Barrier	Frequency (N,%)
Needing drugs to alleviate mental or emotional distress	72 (49.0%)
Proximity to people or places associated with drug use	61 (41.5%)
Belief that drug use enhances quality of life or functioning	52 (35.4%)
Needing drugs to alleviate physical pain or discomfort	40 (27.2%)
Drug use being habitual/fearing consequences of stopping drug use	30 (20.4%)
Drug use hard to stop due to challenges associated with poverty, homelessness	19 (12.9%)

TABLE 3

Most commonly cited barriers to drug use behavior change, by drug type

Barrier	Marijuana 80 (54.4%)	Stimulants (Cocaine, Crack, Methamphetamine, Amphetamine- type substances) 49 (33.3%)	Sedatives and opioids 18 (12.2%)	<i>p</i> value^a
Alleviate mental or emotional distress	40 (50.0%)	25 (51.0%)	7 (38.9%)	.689
Proximity to people or places associated with drug use	27 (33.8%)	31 (63.3%)	3 (16.7%)	.001
Enhance quality of life or functioning	35 (43.8%)	17 (34.7%)	0 (0%)	.001
Alleviate physical pain or discomfort	28 (35%)	3 (6.1%)	9 (50%)	.001
Habit, fear of stopping	15 (18.8%)	10 (20.4%)	5 (27.8%)	.678
Poverty or homelessness	7 (8.8%)	12 (24.5%)	0 (0%)	.010

^a *p* values calculated using Fisher's exact test.