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Health Professional Students As Providers Of Behavioral Health Services To Uninsured Immigrants

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Health Professional Students as Providers of Behavioral Health Services to Uninsured Immigrants

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Abstract: HEALTH PROFESSIONAL STUDENTS AS PROVIDERS OF BEHAVIORAL HEALTH SERVICES TO UNINSURED IMMIGRANTS. Juan Rodriguez Guzman, Andres Barkil-Oteo, and Michelle Silva. Department of Psychiatry, Yale University, School of Medicine, New Haven, CT.

Using the principles of lay counseling, health professional students were trained to deliver psychosocial educational interventions and administer substance use screenings to uninsured monolingual Spanish-speaking Latino immigrants with symptomatic depression and/or substance use disorders. Changes in depressive symptoms were assessed with the PHQ-9. Twenty-five patients enrolled in the lay counselor program for depression. PHQ-9 data were available from the 15 individuals who completed the program, among whom the mean baseline score was 11.7 (SD = 6.2) and mean final score was 4.6 (SD = 4.2) ($p < 0.001$). Participants were screened for substance use with the Screening, Brief Intervention and Referral to Treatment (SBIRT), an evidence-based protocol. A total of 199 patients were screened for multiple substances. Previously uncharacterized patterns of substance use were observed in this population. The educational component of the program for depression was evaluated by administering a survey to the student volunteers. Following their participation in the program, students exhibited increased interest in both underserved populations and the mental health field. Lay counselor approaches commonly applied in low-resource settings may help to address mental health disparities, ensure substance use preventive care for first generation Latino immigrants, and recruit students into the psychiatric profession.

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Introduction

Major depressive disorder, the world's most common treatable psychiatric illness, is predicted to become the second leading cause of disability and death across the globe by 2020. (1-2) In 2006, the prevalence of depressive symptoms in the United States was above 8% and the lifetime diagnosis of depression was over 15%. (3) Parallel to major depressive disorder, undetected and untreated substance use disorders contribute significantly to the burden of morbidity and mortality worldwide. In the United States, alcohol use is the fourth leading preventable cause of death, (4) and the cost associated with alcohol misuse is greater than $249 billion per year. (5) Additionally, it is estimated that nearly half a million people in the United States died from drug overdoses from 2000-2014. (6) Effectively addressing depression and substance use disorders requires early interventions that will identify and treat the illness in order to prevent the onset of related health, financial, and social problems.

Even though brief psychiatric interventions can be effectively used to treat depression, (7) and evidence-based models such as the Screening, Brief Intervention and Referral to Treatment (SBIRT) (8) have been associated with decreased severity of substance use and an overall reduction in healthcare costs, (9-10) a gap in access to treatment persists among patients in low-resource settings. To close this health care access gap and many others, the Patient Protection and Affordable Care Act, a 2010 federal statue to the U.S. healthcare system enacted by President Barack Obama, broadened access to health insurance for many in the United States. (11)

One of the main provisions of the Affordable Care Act was the guaranteed access to insurance for individuals with pre-existing medical conditions, expansion of Medicaid eligibility to adults without disabilities and their dependent children with incomes up to 133% of the federal poverty level (12), and federal subsidies to purchase policies for families with incomes between 100% and 400% of the federal poverty level. (13) As of March 2016, 23 million individuals had been able to access health insurance as a result of the Affordable Care Act. (14) Unfortunately, not all communities in the United States have been able to benefit from this new access to care. Undocumented immigrants were not included under those policy measures and continue to experience limited access to comprehensive and preventive health care. (15)

Undocumented Immigrants in the United States

Since its beginning, the United States has been built and developed as a country with the participation of a diverse community of immigrants. Considering all forms of immigration, in 2005, the United States ranked 34th out of 179 nations with 19,148.45 immigrants per 1 million citizens. (16) It is important to recognize the historical context and the difference between authorized and unauthorized immigration in order to better understand the significance of current immigration policies and their implications for healthcare. From this point on, the terms “unauthorized” and “undocumented“ will be used interchangeably to refer to foreign-born individuals that do not have legal authorization to reside in the United States.

Up until the mid-nineteenth century, most immigrants came from northern European countries, either as colonist or indentured servants. (17) It was not until 1875 that the United States passed its first federal immigration law, the Page Act of 1875, which aimed to prohibit the entry of individuals considered as "undesirable." (18) The law came after an influx of immigrants from Asia during the California Gold Rush and tried to prevent immigration of Asian individuals who could be used as forced laborers, women who could engage in prostitution, and all people considered convicts in their country of origins. (19) Fueled by fears of a plausible increase in unemployment rate and xenophobic feelings after World War I, Congress passed several immigrations acts that aimed to restrict immigration from Africa, Southern and Eastern Europe, and further consolidate the prohibition of Arabic and Asian immigration. (20) It was only in 1965, through the Immigration and Nationality Act, that the national and ethnic quotas for immigration were abolished. (21) This Act resulted in an increase in the number of immigrants from low and middle-income countries in Latin America and Asia, which has significantly changed the ethnic composition of the United States. (22) Since then, over one million individuals have immigrated legally to U.S., an almost four-fold jump in comparison to the number of immigrants in 1965. (23)

Currently, the United States Internal Revenue Service (IRS) defines an authorized immigrant as "an alien who has been granted the right by the U.S. Citizenship and Immigration Services (USCIS) to reside permanently in the United States and to work without restrictions in the United States"; these individuals are also known as a lawful permanent resident. (24) For many immigrants, obtaining a

lawful permanent residency status, popularly known as a “green card,” remains an insurmountable obstacle as the United States has restrictive legal limits to the number of green cards it can authorize per year. This restrictive immigration policy, compounded with a lack of immigrant visas for low-skilled workers, has resulted in many individuals from low and middle-income countries immigrating illegally. (25) Although it is beyond the scope of this effort to detail the modes of entry into the U.S., it is important to point out that there are several ways in which an individual can illegally reside the U.S. Around 40% of undocumented immigrants have entered the United States legally (via land, air, or sea) but have overstayed their visas. (26) Many other undocumented immigrants rely on more dangerous methods of entry, which include walking across the deserts in the U.S.-Mexico border, human trafficking, smuggling through shipping containers, cars, and boxcars, and using homemade water rafts to navigate portions of the Atlantic Ocean. (27) These treacherous methods expose immigrants to physical injury, sexual abuse, and other forms of psychological trauma. (28)

As of 2012, of the estimated 11.4 million unauthorized immigrants residing in the United States, more than 74% were immigrants from several countries in Central and South America. (29) It is important to note that the data available on the number of unauthorized individuals in the United States at best is considered an approximation and potentially underestimated, since the figures are based on how people choose to self-report on the Census. Undocumented Latino immigrants correspond to more than 2.7% of the entire US population (29) and represent over 3.7% of the active labor in this country. (30)

Unauthorized immigrants in the United States are disproportionately poor and undereducated in comparison to their US-born counterparts, (30) which are known contributing risk factors to the development of mental illness and substance use disorders. (31-32) Additionally, several studies have shown that undocumented immigrants in the United States often face psychosocial stressors related to their unauthorized status in the country, which can result in the development and exacerbation of pre-existing mood disorders. (33-35) Examples of these psychosocial stressors include traumatic journeys to the United States, lack of employment and housing opportunities, experiences of racism and discrimination, limited English proficiency, and fear of law enforcement agencies.

Disparities in care persist among unauthorized immigrants since the majority will not have any form of health insurance, (30) and without healthcare access, most of these disorders will remain undetected and untreated. In the absence of health insurance, many undocumented immigrants ultimately seek medical care either in hospital emergency rooms, or at safety net health centers, which include student-run free clinics. (36)

Student-Run Free Clinics as Safety Net Health Centers

The first article that described the prevalence and operation model of student-run clinics defined such clinics as a "health care delivery program in which medical students take primary responsibility for logistics and operational management and which is capable of prescribing disease-specific treatment to patients." (36) One of the main goals of student-run free clinics has been to provide health care to uninsured and homeless patients who are at risk of developing

medical problems due to the lack of preventive health care. Student-run free clinics are also praised for serving as an opportunity to teach health professional students about medical humanism, practice clinical skills, and develop professional generosity. (37-38)

A recent study showed that over 75% of medical schools that are members of the Association of American Medical Colleges (AAMC) have an affiliated student-run free clinic. (39) All of the surveyed student-run free clinics provided outpatient adult medicine, but only 48% of these student-run free clinics delivered some form of psychology/counseling service or consultation. (39) A summary of the mental health and behavioral health services that have been described in the literature is offered below.

Several models of behavioral health services focus solely on the screening and diagnosing of mental health ailments. The student-run Houston Outreach Medicine, Education, and Social Services (HOMES) Clinic, affiliated with the Baylor College of Medicine and the University of Texas Medical School at Houston, assessed the prevalence of bipolar disorder and schizophrenia among its patients. (40) The University of California San Diego student-run free clinic project uses a combination of the Patient Health Questionnaire-2 (PHQ-2) and Patient Health Questionnaire-9 (PHQ-9) to perform a universal screening and diagnosis program for depression. (41) This screening program found that the prevalence of depression among screened patients in the University of California San Diego student-run free clinic sites was close to 28%. (41) A similar model was used by the Columbia Medical Student Outreach, a student-run clinic affiliated with Columbia University and New

York-Presbyterian Hospital, where health professional students screen and diagnose their patients with depression using the PHQ-9 in order to refer them to a treatment team composed of a student and a psychiatrist. (42)

While behavioral health care at student-run clinics is provided free of cost and mainly delivered by students, it should not be considered sub-par care. The goal remains on the availability and access to high quality and effective care. A study that evaluated the quality of primary care management for depression among public and commercial insurance plans in New York city in comparison to the primary care management for depression offered by the East Harlem Health Outreach Partnership (EHHOP), the student-run clinic affiliated with Mount Sinai School of Medicine, found that the EHHOP met, and sometimes exceeded, the quality of care in comparison to the insured patients in New York City. (43) Finally, there have been some pioneering models of care that did not rely on the integration of behavioral health care with primary care. One of these models was established by Creighton University, where medical students and psychiatry faculty founded a specialized psychiatry student-run clinic for homeless patients in the Omaha, Nebraska area. (44)

The HAVEN Free Clinic

The Healthcare, Advocacy, Volunteerism, Education, Neighborhood (HAVEN) Free Clinic is a student-run primary care clinic that works in partnership with the Fair Haven Community Health Center and Yale University. Open every Saturday, HAVEN has been in operation since November 2005 and was established by Yale health professional students in response to a lack of stationary free medical care for

the growing uninsured population. One of the unique aspects of the HAVEN Free Clinic is its leadership board, which is exclusively composed of students from different health professional schools: Medicine, Physician Assistant, Nursing and Public Health. Faculty members act as consultants for the student leadership board, but do not directly make decisions on financial, administrative or clinical programs. As a result, students have the opportunity and the responsibility to innovate models of care and fundraise in order to maintain the clinic sustainability and provide adequate patient care.

The HAVEN Free Clinic provides preventive primary care services comparable to national levels, (45) and offers patients access to social services, specialty care referrals (such as obstetrics & gynecology, diagnostic radiology, and surgical consultations), and specific care and education such as the management of latent tuberculosis infection. (46) The HAVEN Social Services department is particularly relevant to the behavioral health program as it provides screenings and referrals to services that will reduce the burden of social factors in patients' well-being. Some of these services include assistance with food insecurity, unemployment, medical debt, and access to English as a Second Language (ESL) classes. In a 2014 review of 121 charts, 96% of patients at the clinic identified as Latino with an overwhelming majority (81%) noting Spanish as their primary language. Fifty-nine percent of the patients reported being currently employed with an average annual income of $9,350 and less than 50% of patients had attained a high school diploma/GED. Over 66% of patients self-identified as undocumented immigrants. Although Puerto Ricans represent the largest Latino subgroup in New

Haven and Connecticut, this demographic is not reflected in the patient population at HAVEN as Puerto Ricans are considered U.S. citizens and have access to public entitlements, such as the Affordable Care Act.

In an effort to begin addressing the behavioral health needs of patients presenting for care at HAVEN, we implemented an SBIRT screening program and the Behavioral Health Program for Depression (BHP-D). Both utilize a lay counselor approach to provide mental health interventions to uninsured Latino immigrants seeking care at the HAVEN Free Clinic. Our lay counselor models were based on a variety of global mental health strategies that have emerged to train non-professionals in the delivery of mental health interventions in resource-poor settings. (47-49) These lay counselors models were developed to cover the gap of available individuals skilled in the delivery of evidence-based interventions in low- and middle-income countries. (50-51) While lay counselor approaches have proven effective in the management of depression in low- and middle-income countries, (48-49) less is known about the effectiveness of these approaches for addressing mental health disparities in high-income countries such as the United States.

As part of the BHP-D and the SBIRT program, a psychologist and a psychiatrist trained bilingual health professional students as lay counselors to deliver both evidence-based screenings and psychoeducational interventions to Spanish-speaking, undocumented immigrants with symptomatic depression and/or substance use disorders. To our knowledge, this is the first study to apply a lay-counselor approach to train health professional students to provide psychoeducational interventions for depression in the United States, and to examine

the prevalence of substance use among first generation, Spanish-speaking Latino immigrants seeking care at student-run free clinics. Below we describe the structure of the BHP-D and SBIRT program, report preliminary results on patient outcomes and effects on student education, and discuss how this program could be extended to other settings.

Specific Aims

Uninsured Latino immigrants represent a population that often does not have access to traditional health care, which can include preventive primary care, reliable follow-up, and specialty referrals. Thus from a humanitarian perspective, innovating programs to cover this gap in medical care is imperative. Uninsured immigrants are known to seek medical care at safety net clinics, which include student-run free clinics, for various primary care medical ailments. Some of these outpatient medical issues include behavioral health problems such as depression and substance use disorders. The HAVEN Free Clinic serves the Latino uninsured population of New Haven, Connecticut, and in particular, individuals residing in the Fair Haven neighborhood. Studies show that integrating mental health care into primary care clinics reduces discrimination and stigma, (52) which is one of the main barriers that prevents Latinos from seeking mental health care. (53) Based on an internal chart review, many patients have reported moderate depressive symptoms and substance use causing medical, social, or financial problems. Although the clinic is staffed by students supervised by health professionals to

deliver medical care, less information is available on the use of similar models for mental health care delivery.

To solve this problem, two innovative programs were developed at HAVEN to manage behavioral health needs among the clinic's patient population. By training health professional students in lay counseling principles, the HAVEN Free Clinic used evidence-based screening tools and educational models developed for migrant workers, to deliver psychoeducation on depression and substance use, encourage and monitor participation in pleasurable activities, and facilitate linkage to community-based supports. The feasibility of these two innovative programs was supported by existing lay counselor global initiatives and outcomes research conducted by the World Health Organization. It is anticipated that the continued application of lay counseling-informed programs at the HAVEN Free Clinic will reduce depressive symptoms and ensure proper and timely screening for substance use among the clinic's patients.

- Aim 1: Establish a behavioral health psychoeducational program for depression at the HAVEN Free Clinic with health professional students as lay counselors. Students will provide psychoeducation, behavioral activation, and reduction of psychosocial stressors to patients who have screened positive for depression, thereby decreasing depressive symptoms in these patients over the span of 6 to 8 sessions.
- Aim 2: Examine the prevalence of substance use among first generation, Spanish-speaking Latino immigrants seeking care at the HAVEN Free Clinic. Students will screen and counsel patients using the Alcohol, Smoking and

Substance Involvement Screening Test (ASSIST) developed by the World Health Organization, in an effort to understand factors promoting substance use in this population.

The proposed programs aimed to establish behavioral models of care for the uninsured Latino immigrants at HAVEN and provide innovative frameworks that could potentially be used as a resource for other student-run free clinics to overcome the gap in access care that different uninsured populations face throughout the country.

Methods

Behavioral Health Program for Depression (BHP-D)

The BHP-D was developed in 2012 by Marco A. Ramos, a Yale School of Medicine MD/PhD candidate, at the HAVEN Free Clinic in order to address the dearth of mental health professionals available for undocumented immigrants in the community. (54) The initial implementation of the BHP-D was financially supported by the American Psychiatric Association Helping Hands grant. This funding mechanism is designed to support mental health and/or substance use disorder projects developed by medical students in underserved communities. Pilot studies prior to the program's implementation found that the burden of depressive symptoms among this population was severe, with as many as 30% of HAVEN clinic patients reporting moderate depressive symptoms. Wait times to see mental health professionals in the community were as long as six months, leaving these uninsured patients with few immediate options to address their symptoms. In addition, the

patients at HAVEN do not tend to fit typical criteria to receive mental health care at community mental health centers; patients at HAVEN are often considered to be higher functioning meaning that many do not have histories of psychiatric illness or intervention and are maintaining gainful employment, which is unlike many patients in community mental health settings who present with histories of serious and persistent mental illness, and are often in need of ongoing psychiatric care and medication management.

Prior to the implementation of the BHP-D, HAVEN had attempted to address behavioral health needs at the clinic through a men's support group, a women's support group, and "Charlas de Confianza" (a mixed gender group emphasizing psychoeducation in a safe and trusting environment). Unfortunately, these efforts experienced limited success in part due to the clinic's student turnover, and the group format that may have been less appealing to individuals that did not necessarily feel comfortable sharing their difficulties with others.

Program Model

Mental health concerns, psychosocial stressors, and lack of social relationships overlap and maintain one another in the patient population at the HAVEN Free Clinic. The BHP-D aimed to create a model that addressed these risk factors through an integrated approach in which health professional students in the role of lay counselors delivered interventions that are consistent with the World Health Organization's Mental Health Gap Action Program guidelines. (47) Briefly, the World Health Organization's Mental Health Gap Action Program is an initiative that aimed at scaling up services for mental health and substance use disorders for

low- and middle-income countries where health care resources are scarce. The three interventions delivered by the students were psychoeducation, psychosocial stressor reduction, and behavioral activation (see Figure 1). (47)

1) *Psychoeducation: Salir Adelante [Moving Forward] curriculum:* The BHP-D curriculum was adapted from educational modules developed for lay counselors working with migrant Latino workers in the Southwest region of the United States. (55-56) These lay counselor modules were selected in response to the limited mental health background and experience that is characteristic among the program's volunteers, which were health professional students who had no prior mental health training; and, the demographics of the patient population at the HAVEN FREE Clinic. The curriculum's purpose was to educate immigrant Latino patients on how their experienced mental health symptoms could be understood in the context of their migration to the United States. The title "Salir Adelante" which translates as "Moving Forward" was selected as a means of destigmatizing the topic of depression and mental health, and used in conjunction with a popular Spanish dicho (saying) that translates as "Knowledge is Power." Dichos have been documented to be particularly effective with Latino populations since they often convey culturally sanctioned beliefs and values, and can help to enhance motivation to change and reframe challenging situations. (57) The psychoeducational curriculum provided this higher functioning population with a preventive program that aimed to halt a worsening in depressive symptoms. The psychoeducational topics covered in

the curriculum include depression, stress, migration and mental illness, family reorganization after migration, domestic violence, and substance use. The curriculum was delivered to each patient during six to eight individual sessions (see Table 1). Each session focused on one topic, targeted different psychosocial stressors, and promoted specific behavioral activities.

2) *Reduction of Psychosocial Stressors:* BHP-D volunteers worked in conjunction with students volunteering in the Social Services department at HAVEN to identify, mitigate, and reduce psychosocial stressors affecting patients. The primary social stressors identified in this patient population included medical debt, issues with health literacy, lack of or inadequate employment, language barriers, food insecurity, domestic violence, and legal issues. The following example illustrates the collaborative care model used to reduce a psychosocial stressor: "After a patient expressed concerns about her immigration status, a BHP-D volunteer was able to refer the patient to the medical-legal service team in the clinic. The medical-legal service team provided education on legal topics related to immigration and provided a referral to a lawyer in the community."

3) *Behavioral Activation:* Behavioral activation is an evidence-based intervention that seeks to identify specific activities that a patient has stopped engaging in due to loss of interest often related to changes in their mood. The theory behind this intervention was first described by Peter Lewinsohn and holds that an increase in environmental reinforcements are an effective way to engage individuals in understanding the relationship

between their daily actions and emotions in order to encourage activities to improve their mood. (58) Findings in a recent study on primary care patients with major depressive disorder showed that behavioral activation is an effective short-term intervention for depressive symptoms in this setting. (59) As part of the program, the student invites the patient to identify activities they would like to restart and then collaboratively, an action plan is developed and monitored across sessions. Behavioral activation employs short-term and direct problem solving interventions, and has been recommended for Latinos with depression. (60) At each patient's initial visit, the student recorded the patient's prior social activities (*e.g.*, family gatherings, outings with friends, sports) that, if reinitiated, had the potential to provide social support and improve mood. (61) Students encouraged patients to resume their prior social activities by building on the patient's interpersonal strengths. Students monitored and recorded progress on the resumption of these activities during subsequent visits, thereby monitoring successful implementation of their behavioral activation goals.

Training and Supervision

To match the linguistic needs of the population at HAVEN, we recruited bilingual health professional students as volunteers for the BHP-D. Each bilingual student received approximately five hours of initial training on topics related to mental health, immigration, Latino cultural competency, and the practice of psychoeducation. Students were trained to administer the Patient Health Questionnaire-9 (PHQ-9; to assess symptoms of depression), trained to deliver

clinical vignettes, and also to use the Suicide Assessment Five-Step Evaluation and Triage (SAFE-T) (62) when necessary and in consultation with the licensed faculty advisors. Training consisted of role-play and didactic sessions, and it was provided in both English and Spanish.

After the completion of the program, surveys to assess satisfaction with the training and the program curriculum were administered to the BHP-D volunteers. Further, while delivering the intervention, regular supervision was provided by a bicultural psychiatrist and a psychologist in two settings:

- Direct observation of students during the first psychoeducational session with each patient at HAVEN. Direct observation was provided to ensure that a mental health professional could assess: 1) the patient's potential fit with the BHP-D curriculum; 2) the possible need for a higher level of care, and 3) be available to address any immediate risk issues.
- Weekly group debriefing sessions with the students after each psychoeducational session. Each debriefing session consisted of a presentation by the student on the patient's medical and social history, the module and activities completed during the session, the patient's reaction to the module, the student's impressions on the information disclosed by the patient, and a plan for the next session. Supervisors provided feedback on the presentation, education on relevant mental health topics, and recommendations for ongoing patient education.

Patient Referral to the Program

Patients were referred to the BHP-D through a standardized process. Every patient who entered HAVEN for a medical visit was screened for depression with the Patient Health Questionnaire-2 (PHQ-2). Patients with a positive PHQ-2 [measured by a "yes" response to either question] were then further assessed with the PHQ-9. Patients who had scores in the minimal to moderately severe range of depressive symptoms [greater than 1 but less than 20], and were interested in the BHP-D, were enrolled in the program (see Figure 2). Pre-immigration psychiatric history was assessed by the medical team who referred the patient to the BHP-D. In addition, the supervising psychiatrist and psychologist were available to conduct a more detailed clinical assessment during the initial visit if deemed necessary.

Program exclusion criteria included patients who required pharmacological treatment, presented with psychiatric symptoms beyond depression and that required specialized care (determined by the supervising attending physician), were actively suicidal, or could not commit to the completion of at least six sessions. Additionally, since the BHP-D represents a psychoeducational program only, patients were clearly informed that they could simultaneously participate in the program at HAVEN and engage in outpatient mental health treatment in the community.

Data and Statistical Analyses

Results of the program satisfaction surveys administered to the students and demographic, treatment, and PHQ-9 data gathered from participating patients are

presented with approval of the Yale University Institutional Review Board (protocol #1512016980).

For the patients enrolled in the program, changes in depressive symptoms before and after participation in the BHP-D were measured using the PHQ-9 scale. Program retention and completion were also recorded.

The educational component for the students delivering the intervention was examined using the student program satisfaction survey. Students rated the strengths of the curriculum using a five-point Likert scale in areas such as psychoeducation, clinical skills learned (including screening for suicidal ideation, domestic violence, depression), mental health knowledge gained (about depression, stress, anxiety, domestic violence, substance use), cultural competency with respect to Latino immigrants, and increased interest in mental health and working with underserved populations. Responses for the Likert scale ranged from 1 to 5, with 1 representing "strongly disagree" and 5 representing "strongly agree." Students also provided written responses to open-ended questions that assessed how the program had influenced their interest in mental health and personal and educational growth. These surveys were administered to the students after they finished volunteering with the program. The minimum time each student volunteered with the program was one year; the maximum was over three years.

The SBIRT Model at HAVEN

The SBIRT model implemented at the HAVEN Free Clinic in 2015 by Juan Rodriguez Guzman, a Yale School of Medicine MD candidate, aimed to create an efficient means of comprehensively screening uninsured Latino patients for

substance use in their preferred language. Similar to the initial launch of the BHP-D, the SBIRT pilot was implemented with support from a second award from the American Psychiatric Association Helping Hands grant. A substance use screening program was needed in the clinic given that the main clinic's patient population, Latino immigrants, are vulnerable to suffer from substance use disorders due to immigration-related stressors such as isolation. (63) Given the structure at HAVEN which limits direct patient care to one day per week, it was important that the selected approach not impose logistical burden and demands on Clinic staff. To streamline the process and promote sustainability, unique parts of the model were divided among different volunteer groups.

Pre-screening for SBIRT

The medical team administered a four question pre-screening tool to patients during their routine medical encounters. The tool, developed with a grant from the Substance Abuse and Mental Health Services Administration (SAMHSA), (64) screened for binge drinking, number of alcoholic drinks per week, current smoking status, and recent use of non-prescribed drugs. Patients who screened positive (i.e., answered 'yes' to any of these questions) were referred for further screening.

Screening for SBIRT

Patients with a positive pre-screen were referred to bilingual (Spanish/English) students who screened patients for their severity of substance use with a questionnaire known as the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). (65) This 8-item questionnaire was developed by the

World Health Organization to assess patients for substance use and associated health, social, financial and legal problems over a recent three-month period.

The ASSIST was chosen over other instruments due to its validated capacity to screen for multiple substances and their degree of use in a single questionnaire. (66-67) The ASSIST screens for: alcohol, tobacco, cannabis, cocaine, amphetamine-type stimulants, sedatives (benzodiazepines), hallucinogens, inhalants, and opioids. An individual score for each substance was obtained upon completion of the questionnaire. Based upon their score, the ASSIST stratified the patients into three risk groups: 'lower', 'moderate,' or 'high,' which in turn determined the most appropriate intervention ('no treatment', 'brief intervention,' or 'referral to specialist for treatment,' respectively.) (68)

Brief Intervention and Referral to Treatment

Patients with a 'moderate' or 'high' score in the ASSIST received an evidence-based 10 – 15 minute brief intervention (69) based on the FRAMES (feedback, responsibility, advice, menu of strategies, empathy, and self-efficacy) techniques (70) and Motivational Interviewing (71) as outlined in the *ASSIST-linked brief intervention* manual. (72) Additionally, patients were also provided with a take-home Spanish language self-help information guide developed by the World Health Organization to "assist patients who are at risk because of their substance use, to weigh up their substance use behavior, and to change it using self-help strategies". (73)

The purpose of brief intervention for patients deemed to be at 'moderate' risk was to motivate change in their current substance use pattern, and increase

recognition of a connection between their behavior and experienced problems. Patients with a 'high' score in the ASSIST were encouraged to accept a referral to a local specialized substance use treatment facility with Spanish-speaking personnel that provided care at free or reduced cost.

Training and Data Collection

Each student who delivered the ASSIST and the brief intervention detailed above received five hours of training through online modules funded by the National Institute on Drug Abuse (NIDA). (74) These modules offered an educational foundation on SBIRT and motivational interviewing, and also provided practice via simulated cases. To learn how to administer the ASSIST and the ASSIST-linked brief intervention, students were provided with the respective training manuals designed by the WHO (68, 72) and learning was further assessed through pre- and post-tests based on the manuals.

Demographic, treatment, and ASSIST score data gathered from participating patients are presented below with approval from the Yale University Institutional Review Board (protocol # 1608018267).

Results

Behavioral Health Program for Depression (BHP-D)

Patient Screening and Enrollment

In all, 349 patients were screened with the PHQ-2 between 2012 and 2015. Of those screened, 92 patients (26%) had a positive PHQ-2 and were administered a

PHQ-9. Among these patients, the mean PHQ-9 score was 9.8 (SD = 5.5). Forty-one (45%) of the patients who completed the PHQ-9 agreed to enroll in the program (others declined or did not attend their intake appointments).

Behavioral Health Program Outcomes

Twenty-five Latino patients enrolled in the program. 68% were female, with a mean age of 39 years (SD = 12). Eighteen patients completed the program. Four dropped out after the first session, two missed the last session, and one was referred to a licensed mental health professional. PHQ-9 data were available for 15 of the 18 individuals who completed the program as the PHQ-9 scores for the 3 other individuals were not properly documented. Among these 15 individuals, the mean score on entry to the program was 11.7 (SD = 6.2) and mean final score was 4.6 (SD = 4.2), indicating that depressive symptom severity decreased significantly from pre- to post-intervention (p <0.001, by paired t-test).

BHP-D Volunteers: Program Satisfaction and Educational Impact

Eight health professional students volunteered for the BHP-D. Seven completed a satisfaction survey after participating in the program. Six volunteers were medical students and one was a clinical psychology graduate student. Five of the medical students were in their pre-clinical years. Over the course of their time in the program, the average number of patients seen by each student was 4 (*SD* = 2).

Quantitative analysis: 50% or more of the students strongly agreed that they felt more comfortable with the following topics/areas after participating in the BHP-D: screening for suicidal ideation, screening for domestic violence, cultural

competency with respect to Latino immigrants, and interest in mental health and working with underserved populations.

Qualitative analysis: All health professional students desired to pursue mental health work in the future (four in psychiatry, one in clinical psychology, one in neurology, and one in family medicine). Students described their work as volunteers in the BHP as a “humbling experience” that allowed them to develop “stronger communication skills and enhanced emotional intelligence.” A common word used to describe the personal lessons learned was “empathy.” From an educational perspective, a common lesson among students was the “stress” experienced by their patients in relation to their immigration and its effect on “psychological and physical symptoms of depression.”

Students reported that working through the curriculum improved their knowledge on mental health topics like depression and screening for suicidality. A student mentioned that working with this population allowed him to “recognize the cumulative impact of social, economic, and cultural marginalization” on this population’s mental health. Qualifiers such as “strength” and “resilience” were ubiquitous among all students who described the Latino immigrant population. Finally, some of the memorable quotes that students reported from patients who completed the program included: "You have to be able to fall down so that you can get up again,” “I've been more relaxed and the pain went away," and “I know God exists because there are people like you who are willing to listen and help.”

Prevalence of Substance Use at HAVEN

A total of 199 patients were pre-screened for substance use between November 2015 and July 2016. (see Figure 3) Of those screened, 72 patients (36%) had a positive pre-screen. Among these patients, 76% screened positive for binge drinking in the last 3 months, 4% for drinking more than 14 alcoholic drinks per week, 40% for being current smokers, and 10% for using non-prescribed drugs in the past 12 months.

Fifty-five of the patients with a positive pre-screen (76%) were administered the ASSIST (others declined or did not attend their screening appointments). Among these patients, 18% were female, with a mean age of 41 years (SD = 11). Forty-eight patients (87%) reported being first generation Latino immigrants, with a mean length of stay in the United States of 11 years (SD = 5). The main countries of origin among the patients were Ecuador (40%), Mexico (38%) and Guatemala (10%).

Thirty-one of the patients screened with the ASSIST (56%) had a 'low' score in all substances, 23 patients (41%) had a 'medium' score in at least one substance, and only one patient (2%) had a 'high' score in one substance. Among the patients in the 'medium' risk category, 70% received a brief intervention for tobacco use, 30% received a brief intervention for alcohol use, 9% received a brief intervention for cannabis use, and 4% received a brief intervention for cocaine use. Only one patient was referred to a specialized local outpatient facility to receive treatment for alcohol abuse after obtaining a 'high' score for this substance.

None of the patients screened with the ASSIST reported ever using amphetamine-type stimulants, sedatives (benzodiazepines), inhalants, opioids, or

any non-prescribed injectable drugs. Only one patient reported using hallucinogens in the past. More than 50% of the patients reported alcohol use on a weekly or more frequent basis over the past 3 months. (see Tables 2a-c) However, less than 11% of the patients reported having health, social, legal or financial problems due to alcohol use over that same period of time. Tobacco was the second most commonly used substance with over 38% of patients having smoked at least once over the past 3 months. Less than 10% and 5%, respectively, had used cannabis and cocaine in that same span of time.

Discussion

We can draw several lessons from the experience of introducing the BHP-D and SBIRT model at the HAVEN Free Clinic. First, the BHP-D offers a proof of concept that a lay counselor-based program can translate as an effective means of delivering mental health interventions to patients with moderate depressive symptoms in a low-resource setting in the United States. Aspects of this program may be generalizable to other populations facing similar mental health disparities across the country. While there is a growing global mental health literature on lay counselor models for treating depression in lower-middle income countries [*e.g.*, MANAS Study], this is the first study to report the successful use of such a model in the United States. Despite its relatively small size, the BHP-D was able to screen, treat, and/or refer 349 undocumented immigrants who otherwise would not have had access to mental health care. The BHP-D's educational content also served as an introduction to mental health care for patients who may have otherwise faced wait

times for outpatient treatment. Findings of significantly improved symptoms of depression are especially important as the number of undocumented immigrants without access to medical resources is growing in the United States; this is due in part to the passage of the Affordable Care Act in in 2010, which reduced disproportionate-share payments for the care of uninsured patients, including the more than 11 million undocumented immigrants living in the United States. (75)

Second, the BHP-D model illustrated the primary advantage of having the ability to provide care to this population using a limited number of specialist supervisors to train and supervise a larger number of lay counselors in the delivery of evidence-based interventions. Further research needs to be conducted to determine how specialists can be utilized most efficiently and whether this lay counselor model could be implemented in other low-resource settings across the United States, including other student run free clinics, and in other higher-middle income countries around the world. The HAVEN Free Clinic recently partnered with AmeriCares, a global health non-profit organization, to host an educational webinar in order to promote this lay counselor framework as an alternative of care that can be implemented at safety care clinics. Some of the other scholarly avenues that have been explored by the authors to disseminate this model of care to health professional students and educators include poster and oral presentations at the annual meeting of the American Psychiatric Association, the National Latina/o Psychological Association, and the national meeting of the Society of Student-Run Free Clinics.

Third, the BHP-D model may also facilitate multicultural competence among health professional students as they gain insight into the lives of underserved Latino patients and engage in interdisciplinary training. We found that health professional students participating in the BHP-D reported increased empathy toward, and interest in, underserved populations and patients with mental health disorders. The lay counselor approach provided health professional students with specific, transferrable skills such as screening for depression and considering psychosocial risk issues which may contribute to emotional distress. In regards to piloting in other settings, since the training did not draw on specific clinical skills, health professional students from all disciplines, including public health, should be able to participate; in fact, the program has had students from the Yale School of Public Health. Among faculty opportunities, the BHP has demonstrated that psychiatrists at medical schools may be well-positioned to mentor students to develop programs that address the mental health care needs of underserved populations. Positive educational experiences working with underserved patients can help recruit students to the psychiatric profession and better equip future physicians of all specialties with basic skills in the recognition and screening of mental health distress. (76)

Fourth, the data collected through the SBIRT model suggests that of the uninsured first generation Latino immigrants accessing care at HAVEN, the majority are engaging in alcohol and tobacco use, and using other substances (e.g. marijuana and cocaine) much more infrequently. The benefits of using more sensitive and specific screenings in this population, such as the Alcohol Use Disorders

Identification Test (AUDIT) (77) or the Fagerström test for nicotine dependence, (78) should be considered however, as the advantages of the ASSIST can stand out when used in communities struggling with psychoactive poly-substance use.

Fifth, it is surprising to note the lack of self-reported opioid use among this population in light of the current epidemic affecting the United States. In comparison to 2012, accidental intoxication deaths from opioid use are projected to double in the state of Connecticut by the end of 2016. (79) None of the patients we screened via ASSIST reported ever using opioids. A possible explanation for opioid abstinence in this population of uninsured first generation Latino immigrants is the "immigrant paradox", which indicates that being born outside of the United States prior to current residence in the U.S. appears to protect against mental illness and substance use disorders. (80-81) An examination of both the National Latino and Asian American Study and the National Comorbidity Survey Replication revealed that the "immigrant paradox consistently held for Mexican individuals across mood, anxiety, and substance disorders, while it was only evident among Cuban and other Latino subjects for substance disorders." (82)

Last, the frequency of substance use over the last three months is much lower for uninsured patients at the HAVEN Free Clinic than substance use rates in a cohort of 218 patients from primary care clinics in California and other locations in Connecticut. (69) Usage of various substances at HAVEN when compared to these other primary care clinics, respectively, were as follows: tobacco (38% vs 81%), cannabis (9% vs 90 %), cocaine (5% vs 39%), and opioids (0% vs 21%). It is also important to consider the contextual factors that could impact the validity of self-

report surveys among this population. Since use, distribution and possession of non-prescribed drugs is illegal, self-report screenings have the general disadvantage of missing drug use due to the stigmatized and punishable nature of this behavior. (83) This may be particularly true for the undocumented immigrant community who may be reluctant to endorse behaviors that could draw negative attention or result in legal consequences.

Both studies have important limitations. First, while the BHP-D used a lay counselor approach involving participants without a background in mental health care, students who participated in the program were also self-selected volunteers, highly educated with varying levels of medical knowledge and training. The findings of this study therefore, may need to be adapted to settings without access to a pool of highly educated individuals. Also, we understand that the two program models proposed represent alternative approaches and that these are not intended to replace the services offered by mental health professionals. In our description of the program to the Clinic, student facilitators, and potential participants, we strongly emphasize that the program is educational in design and scope, and is not a form of psychotherapy. In fact, we inform participants that if they are interested in a referral for professional mental health services at any point, we will try to facilitate appropriate linkage to community-based care.

Second, as this study was based in a student-run free clinic, the psychiatrist, psychologist, and students in the BHP-D did not receive financial compensation for their work. Further research should determine how a lay counselor model might be employed in settings that do not rely on volunteers.

Third, the number of treated individuals in the BHP-D was relatively small (n = 18), which limited the analysis of the effects of the program on depression. However, prior studies on low and middle income countries (84, 85) have demonstrated the efficacy of such programs on the treatment of depression and this effort's primary purpose was to present the application of a model of care in a particular setting, not to demonstrate effectiveness. It is important to reflect that the workforce needs identified in low-income settings are not unlike some of the challenges facing low-resourced settings in the US. As a result, available models used in low-income countries were identified and adapted for our program.

Fourth, the number of counselors in the program was also relatively small, limiting our analysis of the effects of the BHP-D on educational outcomes. Fifth, we found that many eligible patients chose not to enroll in the actual program. Factors that might account for patients not enrolling (including lack of regular transportation to the clinic, conflicts with program timing, and stigma) deserve further investigation. It is important to notice that a possible access barrier was the wait time between PHQ-9 screening and enrollment into the BHP-D. This wait time originated due to the patient's schedule (i.e., unpredictable work schedules that may include weekend hours) and the lay counselor's availability. No-shows after a first clinic visit also affected the number of patients screened for substance use via the SBIRT program.

Last, we recognize that conclusions drawn from both the BHP-D and SBIRT programs at the HAVEN Free Clinic cannot be generalized to all first generation Latino immigrants in the United States as the cohort of patients seen was limited in

size and represented individuals who were self-seeking primary medical care and received appropriate care. For example, patients who abstained from initial substance use or depression screening very likely were not offered this intervention due to time constraints in the medical visit and less likely from patient refusal.

Given the restricted access to healthcare among this group, greater understanding of factors promoting substance use and depressive symptoms, cultural perceptions of mental health and substance use, and treatment preferences, could prove significant in reducing disparities.

In conclusion, lack of access to psychiatrists and psychologists is a growing problem for uninsured people suffering from depression and substance use disorders in the United States. This inequality in care is compounded for limited English proficient individuals. Lay counselor approaches offer a promising intervention to address mental health disparities in low-resource settings in high to middle-income countries and may also be used to help recruit health professional students into the field of psychiatry.

The SBIRT descriptive study delineates previously uncharacterized patterns of substance use in an uninsured and/or undocumented Latino population in New Haven, and more broadly, suggests that the SBIRT approach is a logistically feasible model for substance use screening that can be implemented in student-run free clinics. Not only can SBIRT models aid in early intervention of substance use disorders in individual patients, but can also serve as a tool for assessing the prevalence of substance use in a vulnerable population that is frequently overlooked by conventional survey techniques.

As both programs expand, it is recommended that interventions to address the topic of anxiety, particularly trauma, be considered. Additional areas for continued attention include: 1) assessment of how changing clinic demographics inform behavioral health program priorities; 2) integration of behavioral health into HAVEN activities and services; 3) student and faculty recruitment; and 4) program sustainability and continued dissemination as a promising educational interventions. Training health professional students regarding lay counselor approaches for depression, the SBIRT model, and funding lay counselor programs for depression and substance use in safety net clinics can therefore potentially help ensure quality preventive care for uninsured Latino immigrants.

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Figure References and Legends

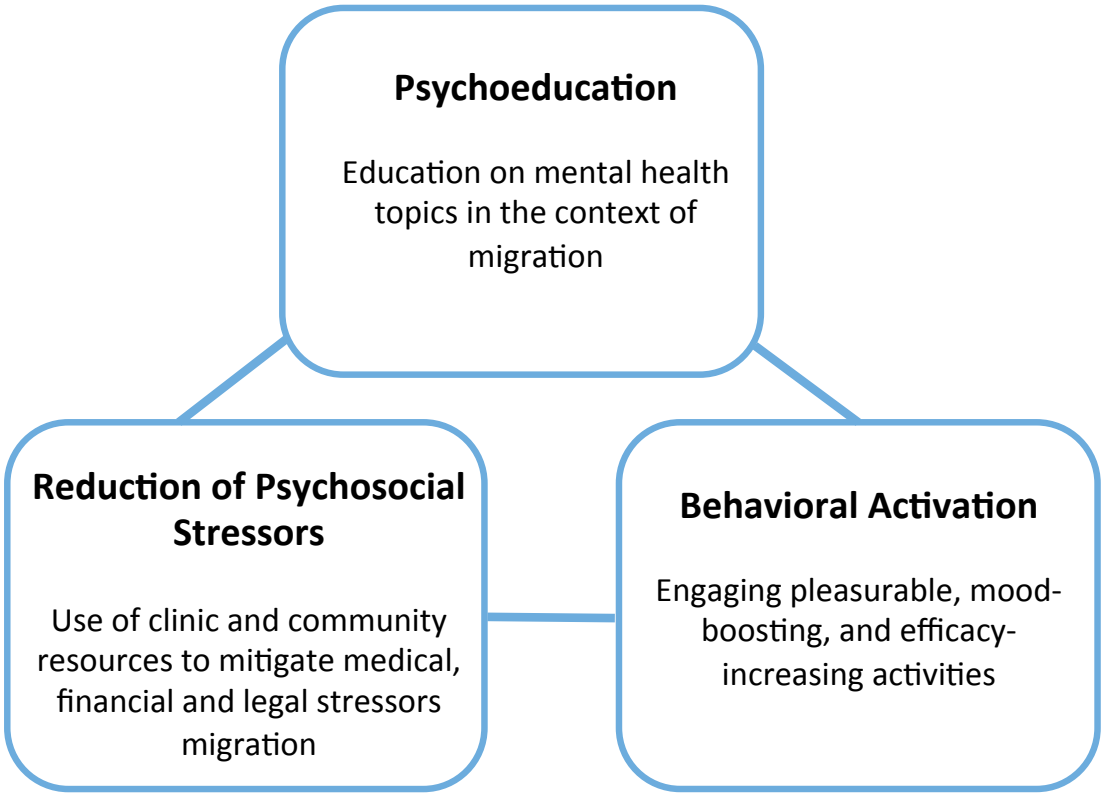

Figure 1. Behavioral Health Program for Depression (BHP-D) model at the HAVEN Free Clinic

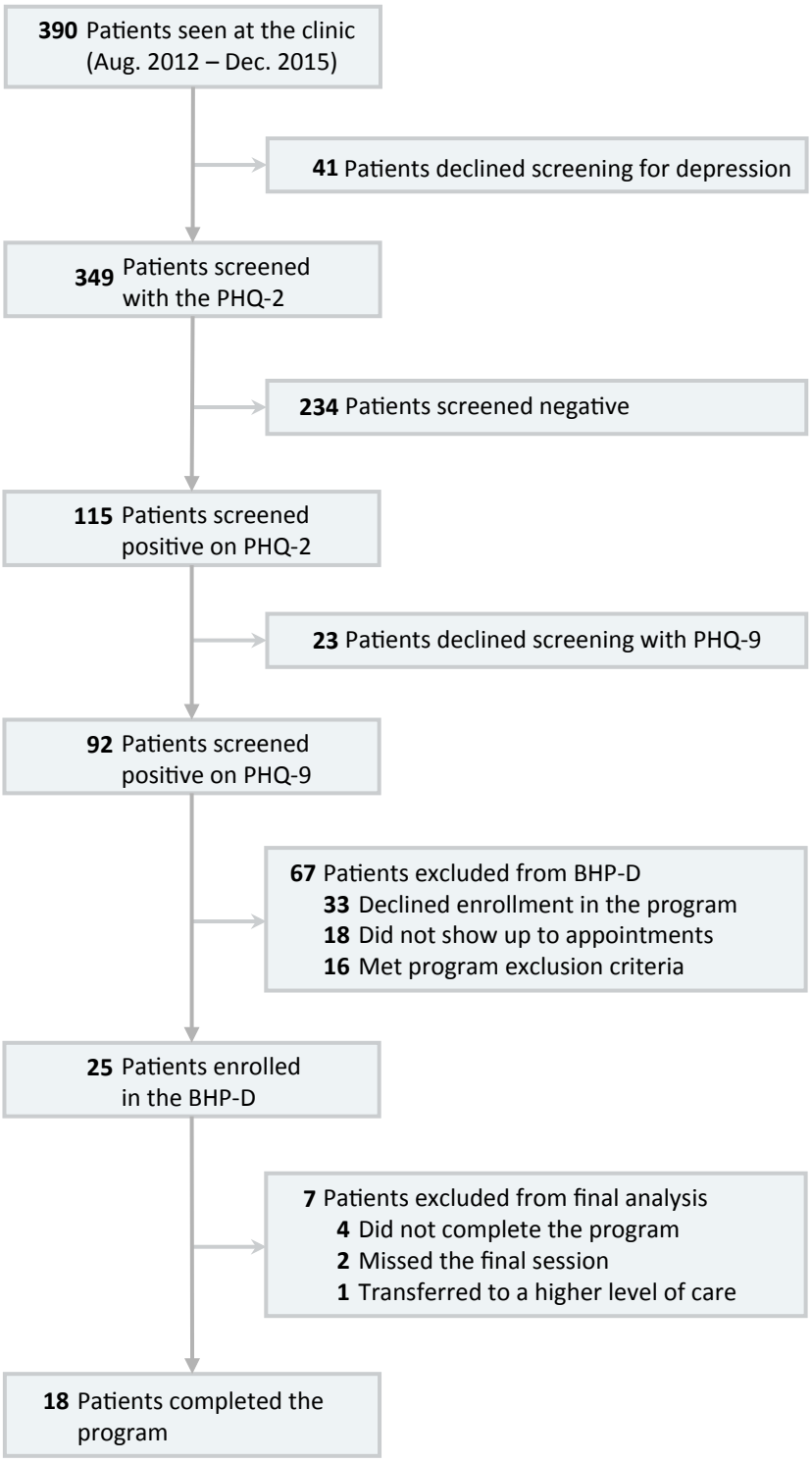

Figure 2. Referral structure to the Behavioral Health Program for Depression (BHP-D) at the HAVEN Free Clinic

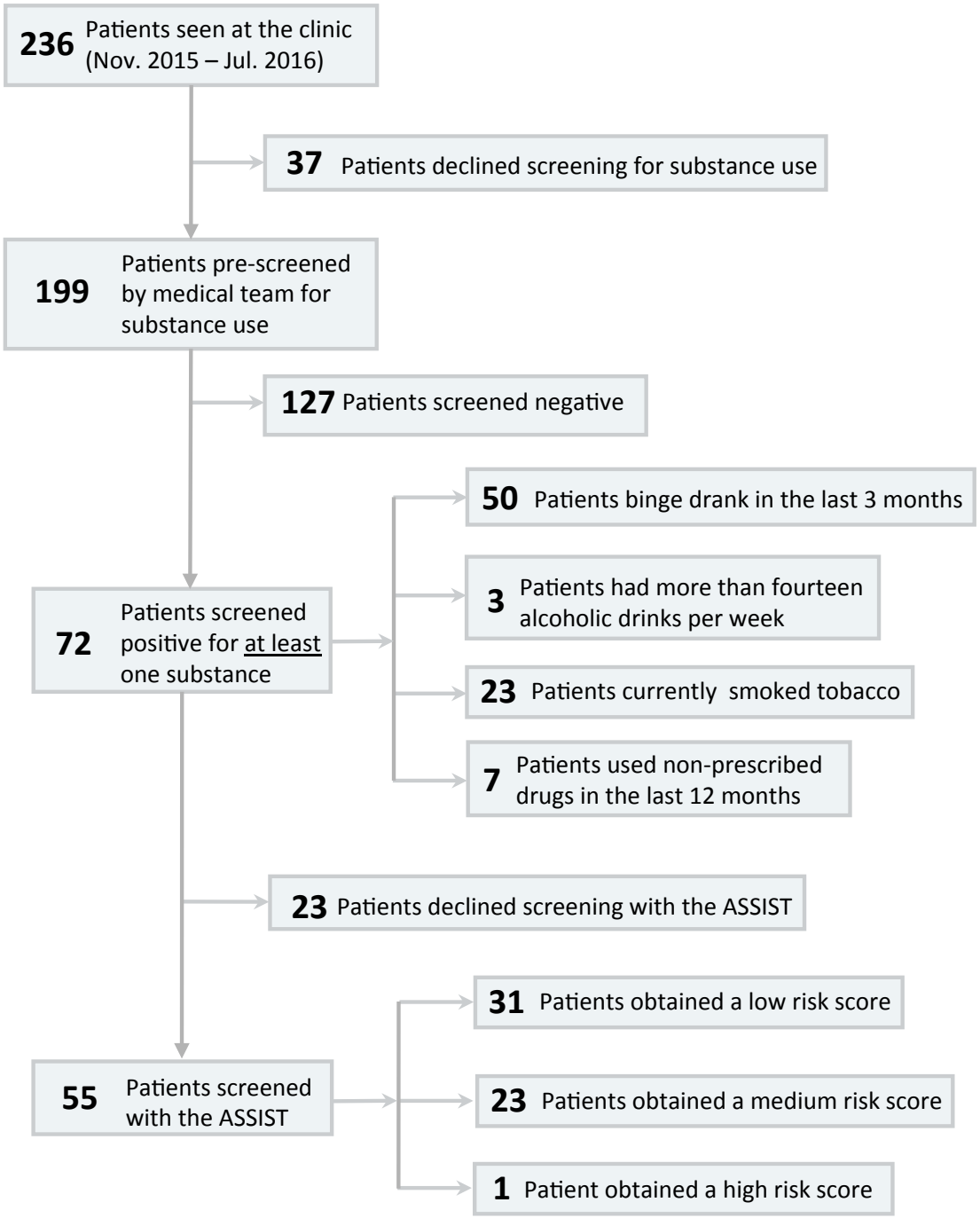

Figure 3. Referral structure to the Screening, Brief Intervention and Referral to Treatment (SBIRT) program at the HAVEN Free clinic.

Tables

Intervention	Description	Rationale
Psychoeducation Curriculum	• Six to eight sessions; 45-60 minutes each • Progress tracked through administration of PHQ9 • Themes addressed in curriculum included depression, stress, mental health and migration, family reorganization after migration, domestic violence, and addiction and substance use	Psychoeducation empowers patients to understand, accept, and cope successfully with mental stress and disorders.
Reduction of Psychosocial Stressors	The following were stressors that students identified, addressed, and tracked in collaboration with the social services department: • Discord within primary support group • Medical literacy and stigma • Occupational problems • Economic hardships • Loss of family structure	Psychosocial stress, particularly in immigrant communities, significantly impacts mental health
Behavioral activation	Identifying and engaging pleasurable, mood-boosting, or efficacy-increasing activities including: • Recognizing social networks • Reconnecting with family and friends • Identifying suitable community groups (*e.g.*, hobbies, volunteer, faith-based) • Practicing exercise, sports, and leisure activities • Visiting community agencies to learn about English language classes and/or employment opportunities	Behavioral activation is one of the most effective CBT components for treating depression

Table 1. Structure of the Behavioral Health Program for Depression (BHP-D).

	Tobacco	**Alcohol**	**Cannabis**	**Cocaine**
Lifetime Use	N = 42 (76.36%)	N = 55 (100 %)	N = 16 (29.1%)	N = 11 (20%)
Use in the past 3 months				
Never	N = 34 (61.82%)	N = 6 (10.91%)	N = 50 (90.91%)	N = 52 (94.54%)
Once or Twice	N = 3 (5.45%)	N = 7 (12.73%)	N = 1 (1.82%)	N = 0 (0%)
Monthly	N = 3 (5.45%)	N = 14 (25.45%)	N = 2 (3.64%)	N = 3 (5.45%)
Weekly	N = 5 (9.09%)	N = 23 (41.82%)	N = 1 (1.82%)	N = 0 (0%)
Daily or Almost Daily	N = 10 (18.18%)	N = 5 (9.09%)	N = 1 (1.82%)	N = 0 (0%)
Strong Desire or Urge to Use in the past 3 months				
Never	N = 46 (83.64%)	N = 50 (90.91%)	N = 54 (98.18%)	N = 0 (0%)
Once or Twice	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)
Monthly	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)
Weekly	N = 2 (3.64%)	N = 5 (9.09%)	N = 0 (0%)	N = 0 (0%)
Daily or Almost Daily	N = 7 (12.73%)	N = 0 (0%)	N = 1 (1.82%)	N = 0 (0%)

Table 2a. Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) questions #1-3 results for uninsured patients at the HAVEN Free clinic.

	Tobacco	Alcohol	Cannabis	Cocaine
Health, social, legal or financial problems due to use in the past 3 months				
Never	N = 53 (96.36%)	N = 49 (89.09%)	N = 55 (100%)	N = 54 (98.18%)
Once or Twice	N = 1 (1.82%)	N = 5 (9.09%)	N = 0 (0%)	N = 1 (1.82%)
Monthly	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)
Weekly	N = 1 (1.82%)	N = 1 (1.82%)	N = 0 (0%)	N = 0 (0%)
Daily or Almost Daily	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)
Failure to do normal expected activities due to use in the past 3 months				
Never	Not Available	N = 51 (92.73%)	N = 54 (98.18%)	N = 55 (100%)
Once or Twice	Not Available	N = 4 (7.27%)	N = 0 (0%)	N = 0 (0%)
Monthly	Not Available	N = 0 (0%)	N = 1 (1.82%)	N = 0 (0%)
Weekly	Not Available	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)
Daily or Almost Daily	Not Available	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)

Table 2b. Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) questions #4-5 results for uninsured patients at the HAVEN Free clinic.

	Tobacco	Alcohol	Cannabis	Cocaine
Friend or relative expressed concern about substance use				
Never	N = 46 (83.64%)	N = 38 (69.09%)	N = 52 (94.54%)	N = 54 (98.18%)
Yes, in the past 3 months	N = 6 (10.91%)	N = 8 (14.54%)	N = 0 (0%)	N = 1 (1.82%)
Yes, but not in the past 3 months	N = 3 (5.45%)	N = 9 (16.36%)	N = 3 (5.45%)	N = 0 (0%)
Tried and failed to control, cut down or stop using substance				
Never	N = 46 (83.64%)	N = 45 (81.82%)	N = 54 (98.18%)	N = 55 (100%)
Yes, in the past 3 month	N = 2 (3.64%)	N = 3 (5.45%)	N = 0 (0%)	N = 0 (0%)
Yes, but not in the past 3 months	N = 7 (12.73%)	N = 7 (12.73%)	N = 1 (1.82%)	N = 0 (0%)

Table 2c. Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) questions #6-7 results for uninsured patients at the HAVEN Free clinic.