

Project ASSERT: An ED-Based Intervention to Increase Access to Primary Care, Preventive Services, and the Substance Abuse Treatment System

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Received for publication November 5, 1996. Revision received February 26, 1997. Accepted for publication March 16, 1997.

Supported by grant T100-409-03-000 from the Centers for Substance Abuse Treatment, National Institutes of Health.

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Study objective: To test the feasibility and effectiveness of Project ASSERT, an innovative program developed by us to facilitate access to the substance abuse treatment system and to primary care and preventive services for emergency department patients with drug- and alcohol-related health problems.

Method: Multicultural health promotion advocates (HPAs) were trained by ED personnel to screen patients using a health needs history, to administer a brief negotiated interview based on readiness-to-change principles, and to use an active referral process to capture the marginal capacity of the substance abuse treatment system. Outcome measures included (1) number of referrals to the substance abuse treatment system, (2) patient self-report of satisfaction with services received from Project ASSERT and utilization of treatment resources, and (3) changes in self-reported frequency of drug and alcohol use and in Drug Abuse Screening Test scores between enrollment and follow-up at 60 to 90 days.

Results: Between March 1, 1995, and February 29, 1996, 7,118 adult ED patients were screened. Substance abuse was detected among 2,931 patients (41%), and 1,096 (37% of detected patients) were enrolled. A total of 8,848 referrals were made: 3,189 to primary care, 2,018 to a variety of substance abuse treatment services, 2,253 for smoking cessation, 339 for mammography, and 689 to other support services (eg, psychiatric nurse, social worker, battered women's advocate or shelter). Comparison of enrollment and follow-up scores for the 245 enrollees who kept a follow-up appointment demonstrated significant reductions, including a 45% reduction in severity of drug problem, a 56% reduction in alcohol use, and a 64% reduction in the frequency of drinking six or more drinks at one sitting. At follow-up, patients expressed satisfaction with Project ASSERT: 91% were satisfied with their referrals; 93% thought the HPAs explained things well; and 99% thought the HPAs respected them as individuals. Among the follow-up group, 50% self-reported that they had kept an appointment for treatment.

Conclusion: Project ASSERT is an innovative approach to link ED patients with the substance abuse treatment system and with primary care and other preventive services. Its success is further demonstrated by its adoption by Boston Medical Center as a funded ED value-added service.

[Bernstein E, Bernstein J, Levenson S: Project ASSERT: An ED-based intervention to increase access to primary care, preventive services, and the substance abuse treatment system. *Ann Emerg Med* August 1997;30:181-189.]

INTRODUCTION

Although alcohol abuse and illicit drug use are common diagnoses in our nation's emergency departments, emergency medicine providers have been slow to adopt guidelines for detection and referral to treatment. In this report, we describe an innovative program, Project ASSERT, which we developed to link ED patients to the substance abuse treatment system and to primary care and preventive services.

Eighteen million residents of the United States suffer from alcohol dependence, and 76 million are affected by alcohol abuse at some time in their lives.¹ Alcohol is implicated in more than 100,000 deaths annually, 30,000 from unintentional injuries and 17,700 from intentional injuries. Between 9% and 46% of ED patients have recently consumed alcohol, depending on the type of ED, the type of patient, and the hours of admission that are sampled.^{2,3} A significant number of the 31.6 million ED visits that occur because of injury are alcohol related.⁴ Alcohol abuse is estimated to have cost the nation \$99 billion in 1990.⁵ Illicit drug use is associated with more than 18,413 deaths and more than 370,000 ED visits each year and with an annual cost of \$66.9 billion, including \$3.2 billion in direct health care costs.^{6,7}

Reportedly, only 30% of those who need treatment receive any form of help—14% in the drug treatment specialty sector, 12% in the nonspecialty medical environment, 6% in other human services agencies, and 9% in the voluntary arena that includes Alcoholics Anonymous, Narcotics Anonymous, Cocaine Anonymous, Salvation Army, and other religious groups.⁸⁻¹¹ Yet treatment works,¹²⁻¹⁴ and it can be cost-effective.¹⁵

In 1957, Chavetz and colleagues¹⁶ reported that among 1200 patients diagnosed with alcoholism in the ED at Massachusetts General Hospital, fewer than 1% sought rehabilitative services. He initiated a procedure to establish therapeutic contact with these patients and created a user-friendly referral system, with impressive results: 65% of these

patients made a follow-up visit to the alcohol clinic, compared with 5% of the control group, and half returned to the clinic for five or more visits. Chavetz's work 40 years ago is the cornerstone of today's motivational interviewing techniques and brief intervention models.

Bien and colleagues¹⁷ reviewed 32 controlled trials of brief counseling, primarily in the alcohol field, and found that not only was brief counseling more effective than no treatment but it compared favorably with more traditional treatments in 11 of 13 randomized trials. A World Health Organization study confirmed these results.¹⁸ Heavy problem drinkers were evaluated across 12 nations with very different cultural orientations and social circumstances. When simple advice, brief counseling, and extended counseling outcomes were compared against those of a control group, male drinkers receiving 5 minutes of brief advice reduced their typical alcohol consumption by 21%, and those exposed to a 15-minute brief intervention reduced their typical daily alcohol consumption by 27%, compared with only 7% reduction among controls (n=1,260 men). There was a significant effect for all interventions, and 5 minutes of simple advice was as effective as other treatments. Brief intervention has proved effective both as a treatment in itself and as a means of linking substance abusers with the more traditional forms of treatment for addiction. The first principle of intervention is that it come *to* people, instead of requiring people to seek it out. The second is that it be timely, and the best time for early intervention is during the crisis that brings the person with an alcohol or drug problem into the system—for either a medical or social or criminal justice issue. An ED visit, for example, appears to be a "teachable moment."

MATERIALS AND METHODS

Project ASSERT, an acronym for improving Alcohol and Substance abuse Services and Educating providers to Refer patients to Treatment, is an innovative program we developed for patient education and referral for substance abuse services, primary care, and other preventive services. This study was undertaken, with assistance from the Center for Substance Abuse Treatment (CSAT), to test the feasibility and effectiveness of the model in the ED environment. The site of the study was the ED at Boston Medical Center, an urban, inner-city trauma center whose service population is primarily African-American, Haitian, Latino, and Cape Verdean.

The program consists of four phases: (1) casefinding, or detection of substance abuse and other preventable problems; (2) informed consent, enrollment, and assessment; (3) the brief negotiated interview (BNI), or discussion of

options and resources; (4) active referral, or linkage with support services, and (5) follow-up. Services were delivered by five health promotion advocates (HPAs); they were African-American, Latino, and Cape Verdean peer educators with previous experience in community outreach, case management, and substance abuse counseling who received further training from ED personnel and consultants in patient interview techniques; substance abuse core content (detection criteria and treatment resources); codes of ethics and professional conduct; cultural competence; procedures for informed consent; administration of instruments (the Health Needs History, the DAST-10 Drug Abuse Screening Test, the AUDIT Alcohol Use Disorder Identification Test, and the follow-up survey); principles of the BNI; and continuous quality improvement techniques (CQI "best practices"). Didactic presentations, role playing, and supervised bedside interviews were employed.

A semistructured 15-minute oral interview (the Health Needs History) was used to screen adult acute and nonacute ED patients who presented between 9 AM and 11 PM, 7 days a week. Patients were approached for interviews while they were waiting in the examining rooms. In addition, patients identified by ED staff as substance abusers were directed to the HPAs.

Age younger than 21 years, life-threatening medical condition, and inability to respond to an interview because of pain, change in mental status, or the logistics of treatment were criteria for exclusion from this convenience sample. On busy shifts, staffing was also a limitation to sample size. Intoxication was not itself a criterion for exclusion, because patients who were intoxicated at the time of admission to the ED were not interviewed until closer to discharge time, when they were sober.

Specific questions that permit detection of an alcohol or illicit drug problem are embedded in the Health Needs History among items about demographic information, health needs, and access to health care services. The criteria used for casefinding for substance abuse include any of the following: (1) use of any illicit drug within the last year, (2) consumption of alcohol within the last 24 hours along with admission of a drinking problem, (3) consumption of more than four drinks in less than 2 hours on more than four occasions in the last month; and (4) report of alcohol or drug use in association with injury within the last year.

All patients were referred for needed services such as mammography, linkage with primary care, young men's clinic, battered women's services, sexually transmitted disease (STD) clinic, HIV testing, and Papanicolaou smear testing. If a substance abuse problem was not detected, the interview was then terminated.

If a substance abuse problem was detected, patients were offered enrollment in Project ASSERT through an informed consent process approved by the Human Studies Committee. The DAST-10 and AUDIT tests,¹⁹⁻²¹ standard measures of drug use and alcohol abuse, were then administered to assess severity. A score of 3 or higher on the DAST was considered positive, as was a score of 8 or higher on the AUDIT. Patients were also asked at intake about their frequency of use of marijuana, alcohol, cocaine or crack, heroin, and injection drugs within the last 2 months. Patients then marked on a "readiness ruler," scaled from 1 ("not ready") to 10 ("ready"), the point at which they rated their own readiness to change.²²⁻²³

The 15- to 20-minute BNI was then used as a tool to link patients with the substance abuse treatment system.²⁴ The goals of the interaction were to explore conflicting motivations (the pros and cons of drug use) and to negotiate possible strategies for change depending on the patient's

Figure 1.

The BNI script.

"How are you today? My name is Mr Stevenson. Now that you've decided to enroll in the study, would you mind discussing your drug use?"

"It's okay."

"Please think back to a time when you were not using. What are some of the differences you notice when you have been taking, from when you have not been taking drugs?" Or, "Help me understand what are some of the ways drugs have been useful or good, and then think of the less useful or good things about your drug use."

The community outreach worker is listening and, with a nonjudgmental tone, reflecting back what the person says. The pros and cons are summarized on the basis of what the person says, and then the person is asked, "Where does that leave you?"

The community outreach worker then shows the person the readiness ruler and asks, "Please take this pencil and mark on this scale of 0 to 10 (if 10 is ready and 0 is not ready) where you find yourself. It seems that you are unsure . . . is that right?" Clarify: "What will it take to get ready to change?" "What are the pros and cons of changing?"

The patient is then asked, "How ready are you to enter some type of treatment?" The outreach worker poses a question for those who are close to ready: "What are some things you have tried that worked for you or someone you know?"

If the patient is just not ready, the community outreach worker says, "Well, if you change your mind or feel more ready, you will have a list of places to call. There is help and support; all you have to do is ask for it."

With the unsure and ready patients, the community outreach worker reviews options and negotiates a realistic plan with the person that is likely to reduce the negative consequences and substitute an alternative for the positives. The community outreach worker communicates optimism, based on personal experience, that treatment works. The person's intention to act is reinforced by the outreach worker. If the interviewer and the patient agree on a treatment option, the interviewer will ask for a verbal contract with the patient to carry out the plan.

readiness. This is a model of mutual learning in which the patient imparts knowledge about his own experiences and perspective and is offered feedback, including information about resources.²⁵ The basic steps include the following: (1) establish and maintain rapport with the patient throughout the enrollment process; (2) ask the patient's permission to discuss the pros and cons of drug use; and (3) negotiate options for entry into treatment based on the patient's perception of readiness (not ready, unsure, or ready).

Figure 1 describes a sample script for the interview, based on the principle that "a patient's motivation to change can be enhanced by using a negotiation method in which the patient, not the practitioner, articulates the benefits and costs involved."²⁶ A laminated, pocket-size card with sample questions (Fig. 2) was used to guide the interview.²⁴

A variety of treatment options (eg, inpatient, outpatient, detoxification, methadone clinic, acupuncture) were presented to the patient, and all potential openings in the treatment system were explored through persistent telephone

calls until an available bed or appointment was located. Taxi vouchers were provided to bring patients directly to treatment facilities. Patients were given a telephone number for contact with the HPA in case they needed further help with barriers encountered in completing the referral. The active referral process took 15 to 30 minutes, depending on availability of treatment slots.

At enrollment, all patients agreed to participate in a 60-day follow-up interview. At 30 days, a reminder letter was sent and followed up by a telephone call to schedule an appointment. Questions that had been asked about substance use during the 2 months before enrollment were repeated at the follow-up visit, and the DAST was readministered. Patient satisfaction with Project ASSERT was also assessed. Twenty-minute interviews were conducted either in the Project ASSERT office or by telephone, and a \$25 stipend was provided to the patient.

Data completion and quality were monitored through a data manager and a computerized tracking system, and

Figure 2.
BNI: tasks, goals, and questions.

Tasks	Goals	Questions
Establish rapport	<ul style="list-style-type: none"> To understand patient's concerns and circumstances; To explain provider's role; To avoid a judgmental stance 	Sit at bedside and ask open-ended questions that show concern for patient as a person, such as, "How are you feeling today?", "Are you comfortable?", "If I could see the situation through your eyes, what would I see?", or "Help me understand."
Raise subject	<ul style="list-style-type: none"> To get patient agreement to talk about alcohol and drug use Elicit pros and cons of problem behavior 	Would you mind spending 5 minutes talking about your use of ____? How do you see it affecting your health?
Assess readiness	<ul style="list-style-type: none"> To evaluate readiness to accept referral 	How do you feel about your use of ____? How ready are you to change your use of ____? (Use ruler)
Provide feedback	<ul style="list-style-type: none"> To raise patient awareness of the medical aspects of alcohol and drug use and consequences of further use To let patient know provider's concerns 	How much do you know about what caused the reason for your ED visit? What do you make of all this?
Readiness ruler: Not ready	<ul style="list-style-type: none"> To offer further contact if the patient desires To offer to present your feedback and concerns if the patient wants To offer card with referral options 	Is there anything you would want to know about ____? Would you mind if I tell you about my concerns for your health? What would it take to get you to consider thinking about a change? If you ever decide to stop, what would you do?
Unsure	<ul style="list-style-type: none"> To facilitate the patient's ability to name the problem by discussing pros and cons of change (acceptance of treatment) To understand ambivalence and how to work with it 	What are the good things about ____ or what it does for you? What are the not so good things/things you don't like about ____? What concerns do you have about your use of ____?
Ready	<ul style="list-style-type: none"> To help patients name solutions for themselves, choose a course of action, and decide how to achieve it To encourage patient choice 	<ol style="list-style-type: none"> Emphasize: <ol style="list-style-type: none"> there are many options you know what has worked for you in the past and for other people you are the best judge of what suits you and can work for you List options Ask, "What will work for you?" Offer backup support and referral

Source: Rollnick and Bernstein.

monthly performance reports were produced for each HPA. Data were analyzed using SAS software (SAS Institute). The paired Student *t* test was used for comparisons within interval data groups, and χ^2 analysis was used to establish difference for 2x2 tables. McNemar's test was used to calculate before and after comparisons for follow-up.

RESULTS

A total of 7,118 ED patients were screened (18% of the total ED population for the study period). An alcohol or drug abuse problem was detected in 2,931 of these patients (41%), and 37% of these detected patients (1,096) enrolled in Project ASSERT. Follow-up information is available for 245 patients who kept their return appointments (Figure 3).

The larger sample of all screened patients (Table 1) was representative, in demographic characteristics, of the 39,385 ED yearly census for gender, age, race, and primary language spoken. This sample of screened patients forms the backdrop for analysis of those in whom a substance abuse problem was detected.

Access to care appeared to be a serious problem among these inner-city ED patients. More than half had no regular physician, and one third used the ED as their regular source of care. Lack of insurance was a major barrier to care; half of the sample lacked insurance, and cost and lack of insurance were given as the most common reasons for not having a regular doctor. A fifth of the group had not seen a doctor within the last year.

A total of 8,848 referrals were made by the HPAs, an average of 1.2 referrals per screened patient (Table 2). Educational materials and counseling were provided for smoking cessation, safe sex, the importance of primary care, STD, mammography, Papanicolaou screening, seat belt use, injury prevention, violence prevention, and battering. Primary care referrals (3,189) were accepted by almost half of screened patients (to the General Medical Clinic, Latino Health and Young Male Clinics, Women's Health Clinic, and Homeless Clinic). Preventive services referrals included smoking cessation, breast cancer screening, and battered women's shelter or advocate services. Referrals also were made to support services (eg, psychiatric nurses, social workers). A total of 2,018 referrals were made to a variety of substance abuse treatment resources.

Characteristics of enrolled patients are described in Table 1. Compared with the patients in whom an abuse problem was detected who were not enrolled, enrollees were older, were overrepresented in the 30- to 45-year-old age group, and were less likely to be married, college educated, or working. They were more likely to have had an STD, to

be smokers, or to be depressed, assaulted, or injured, and their injury was more likely to involve alcohol or other drugs. They were also more likely to be on Medicaid and Disability Social Security Insurance and were more likely to use the ED as their source of care. These differences were all significant at the $P < .001$ level.

Enrollees were more likely than nonenrollees to admit to an alcohol problem or to use of cocaine/crack or heroin, and less likely to report use of marijuana ($P < .001$). In general, enrollees assessed themselves as quite ready for change (readiness score of 8 or higher). The rate of referral was significantly higher for enrollees than for nonenrollees for all categories of treatment ($P < .001$). The enrollees received a total of 2,406 referrals to substance abuse treatment, primary care, and preventive and support services, an average of 2.2 referrals per enrollee.

Characteristics of monitored patients are described in Table 1. The patients who kept their follow-up appointments were similar to those who did not in age; educational background; marital status; housing situation; smoking rate; self-reports of depression, assault, or injury; and self-assessment of readiness to change. The follow-up (monitored) group differed from the nonmonitored group by race and gender; they were more likely to be female (41% versus 28%) and black (68% versus 59%). The follow-up group were also more likely to recall using alcohol or other drugs

Figure 3.
Sample distribution algorithm.

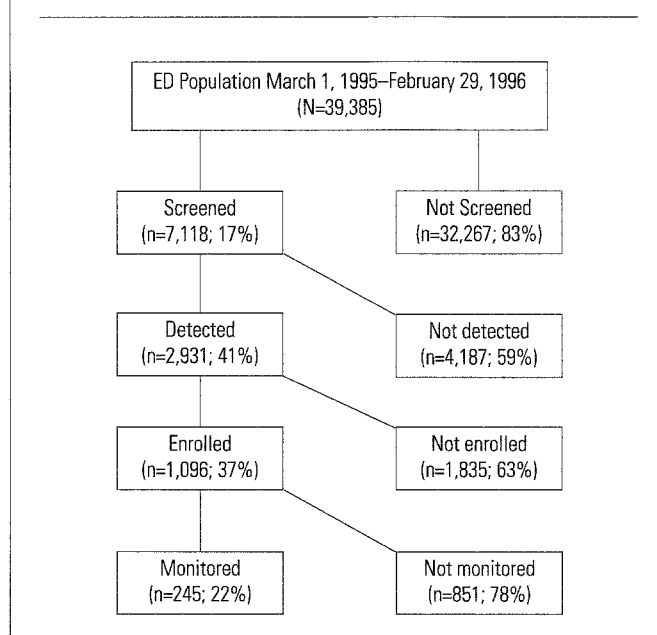


Table 1.

Project ASSERT data set (March 1, 1995, through February 29, 1996).

Variable	Screened (n=7,118)		Detected				Enrolled			
			Not Enrolled (n=1,836)		Enrolled (n=1,096)		Not Monitored (n=851)		Monitored (n=245)	
	No.	%	No.	%	No.	%	No.	%	No.	%
Sex*										
Male	3,921	56.4	1,255	65.5	707	66.3	573	72.1	134	59.5
Nonpregnant female	2,676	38.6	587	30.6	326	30.6	196	24.7	99	38.7
Pregnant female	349	5.0	75	3.9	33	3.1	26	3.2	4	1.8
Race*										
American Indian	123	1.7	19	1.1	8	.8	5	.6	3	1.3
Asian/Pacific Islander	104	1.5	14	.8	11	1.1	8	1.0	3	1.3
Black	4,211	59.2	1,158	62.9	650	61.2	488	59.2	163	68.2
White	1,553	21.8	452	24.8	258	24.3	218	26.5	40	16.7
Primary language†										
English	5,402	78.8	1,591	84.2	911	86.2	696	85.0	216	89.7
Spanish	748	10.9	183	9.7	114	10.8	95	11.6	19	8.0
Cape Verdean	186	2.7	30	1.6	14	1.3	14	1.7	2	1.0
Haitian	322	4.7	50	2.7	8	.8	5	.86	3	1.3
Age (no. [mean])†	7,009	38.2	1,926	35.9	1,085	38.5	843	38.5	243	38.3
Marital status†										
Married	1,255	17.8	237	12.3	100	9.2	83	9.8	17	7.0
Separated	662	9.4	169	8.7	145	13.3	105	12.4	40	16.5
Divorced	741	10.5	210	10.9	138	12.7	108	12.8	30	12.3
Widowed	305	4.3	59	3.1	34	3.1	31	3.7	3	1.2
Single	4,073	57.9	1,253	65.0	672	61.7	520	62.4	153	63.0
Education†										
Less than eighth grade	380	5.6	72	3.8	49	4.8	40	5.1	9	3.8
Completed eighth grade	1,435	21.1	398	21.0	297	29.2	229	29.3	68	29.1
Completed high school	3,225	47.5	971	51.5	496	48.8	379	48.4	118	50.4
Some college	1,756	25.8	446	23.6	174	17.1	135	17.2	39	16.7
Housing†										
Private	4,624	66.6	1,227	64.1	523	49.0	401	48.3	122	51.5
Public	1,458	21.0	356	18.6	184	17.2	149	17.9	35	14.8
Shelter/homeless	862	12.4	331	17.3	360	33.8	281	33.8	80	33.7
Assaulted†										
Yes	873	12.3	353	18.1	235	24.0	195	22.9	57	23.3
No	6,245	87.7	1,600	81.9	743	76.0	657	77.1	188	76.7
Injured (within last year)†										
Yes	2,096	30.8	664	35.7	437	41.7	342	42.2	95	39.9
No	4,709	69.2	1,197	64.3	610	58.3	468	57.8	143	60.1
Depressed†										
Yes	895	11.7	247	13.0	258	24.2	196	23.7	63	26.3
No	6,078	88.3	1,657	87.0	808	75.8	631	76.3	177	73.7
Smoker†										
Yes	3,658	51.6	1,332	68.3	869	79.4	679	79.7	192	78.7
No	3,407	48.1	618	31.7	222	20.3	171	20.1	51	20.9
History of STD††										
Yes	1,760	25.5	639	33.7	418	39.0	321	38.6	98	40.7
No	4,435	64.3	1,063	56.1	563	52.5	429	51.6	134	55.6
Health insurance										
Yes	3,286	47.5	836	43.8	499	47.1	393	47.8	106	44.4
No	3,631	52.5	1,071	56.2	561	52.9	429	52.2	133	55.6
Regular doctor										
Yes	3,278	47.7	752	39.8	417	39.3	313	38.0	104	43.7
No	3,589	52.3	1,138	60.2	643	60.7	510	62.0	134	56.3

* $P < .05$ (monitored versus not monitored).† $P < .05$ (enrolled versus not enrolled).

at time of injury and more likely to report a history of STD and of having been forced to have sex.

Among those monitored, 69% had a positive AUDIT score of 8 or higher at the time of enrollment, and 69% had a positive score of 3 or higher on the DAST. The AUDIT scores at enrollment were similar for both monitored and nonmonitored groups, as were the patients' self-assessments of readiness to change. Monitored patients were similar to those not monitored in heroin and marijuana use but were more likely to have higher DAST scores than the latter. The pattern of drug use was also different, in that monitored patients were more likely to be crack or cocaine users and to report heavier use. They were less likely to have had a drink within 24 hours of their visit. These differences were all significant at the $P < .001$ level.

Clients who returned for follow-up had received 257 substance abuse referrals at the time of enrollment (Table 2). At the 60- to 90-day follow-up visit, patients reported that they kept 46 of 87 appointments to the Boston Office of Treatment Improvement Central Intake (53%); 14 of 30 direct referrals to inpatient facilities (47%); 55 of 93 referrals to outpatient services, Narcotics Anonymous, or Alcoholics Anonymous (60%); and 3 of 23 referrals for HIV testing (13%).

At follow-up, patients reported a significant reduction in harm, as measured by a reduction in quantity and/or frequency of drug use, for the 2 months preceding the follow-up visit, compared with the 2 months before enrollment. Among 129 cocaine/crack users at the time of enrollment, 86 (67%) had stopped using for the 2 months before follow-up. Among 103 marijuana users, 64 (62%) had stopped

Table 2.
Referrals by Project ASSERT.

Referral	Screened (n=7,118)		Enrolled (n=1,096)		Monitored (n=245)	
	No.	%	No.	%	No.	%
Primary care services*	3,189	45	513	47	119	49
Central Intake I, II, or III	582	8	447	41	87	36
Inpatient alcohol treatment	158	2	109	10	30	12
Outpatient alcohol treatment	730	10	377	34	93	38
Acupuncture	105	2	80	7	24	10
HIV testing	443	6	92	8	23	9
Smoking cessation	2,253	32	524	48	118	48
Mammography	339	5	36	10	8	3
Other support services†	689	10	234	21	84	34
Total (no. and mean)	8,848	1.2	2,406	2.2	586	2.4

*Primary Care Clinic, Women's Health Clinic, Latino Health Clinic, Young Male Clinic, Homeless Clinic.

†Psychiatric nurse, social worker, battered women's advocate or shelter.

using. Patterns for heroin were similar, but the number of heroin users in the follow-up sample was small (n=62). When DAST results from the time of enrollment were compared with those from retesting at the time of follow-up (Figure 4), there was a 45% reduction in drug severity, which is a composite score of harmful drug use consequences such as medical problems, neglect of family, and illegal activities. Among harmful or hazardous drinkers (positive AUDIT score), there was a 56% reduction in frequency of alcohol use, a 33% reduction in the number of drinks per day, and a 64% reduction in the frequency of drinking six or more drinks at one sitting. All of these results were statistically significant at the $P < .05$ level or better.

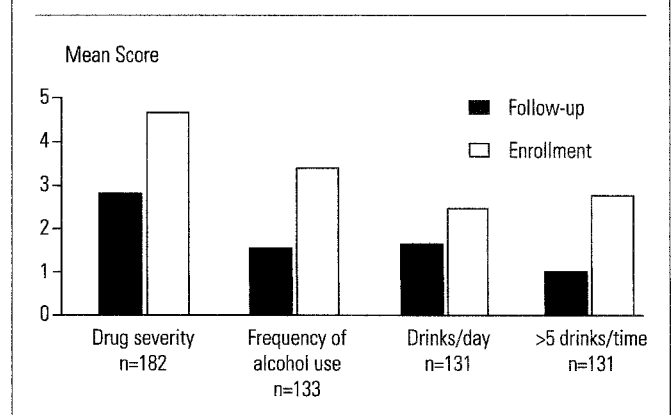
The patients who were interviewed were pleased with Project ASSERT: 91% were satisfied with their referrals, 93% thought that the HPAs did a good job explaining the need for treatment and what treatment included, and 99% thought that the HPAs respected them as individuals. More than half attributed their cutting back in drinking and drug use directly to interaction with Project ASSERT staff. Comments centered on four themes: intervention when they needed it; feeling comfortable sharing with the HPAs; the respect with which they were treated; and delivery of needed services.

DISCUSSION

Project ASSERT is an innovative program that provides comprehensive health promotion services in an ED setting, linking patients to the substance abuse treatment system and to primary care and other preventive services.

Only 1,096 patients (37%) of 2,931 in whom an abuse problem was detected choose to enroll in Project ASSERT. Among the latter group, 1,016 patients who reported use

Figure 4.
Project ASSERT demonstrates decrease in severity.



of marijuana within the last year (71% of marijuana users) declined enrollment in Project ASSERT. These patients may not have perceived their marijuana use as a reason to enroll in Project ASSERT or to accept a referral to treatment. Other possible reasons for patient refusal to enroll may have been lack of readiness to change, the time required for enrollment and interview, or concerns about confidentiality.

The patient with an alcohol or drug problem has an array of interrelated health and social issues (housing, jobs, health care access, smoking, violence victimization, and depression) that were addressed by the HPAs through referrals. The HPAs empowered patients by employing the BNI and providing information, referrals, resources, support, and follow-up. Enrollees received 2,406 referrals (an average of 2.2 referrals per person).

Comparison of answers to quantity and frequency questions and DAST scores at enrollment with answers and scores obtained at follow-up revealed significant self-reported reductions in harm. The findings are limited, however, by the relatively low follow-up rate of 22%, which reflects the enormity of the social and health difficulties affecting patients with substance problems. A significant number of patients have no telephone, and they move frequently; the telephone numbers and addresses given at enrollment were often incorrect, and reminder letters were returned by the postal service. In addition, the fact that 34% of enrollees were homeless or living in shelters presented a serious challenge to any follow-up efforts. The scheduling of follow-up visits primarily on weekdays may also have presented problems for the 19% of enrollees who were employed full-time or part-time.

Despite these problems, the monitored and nonmonitored groups were very similar in DAST, AUDIT, and readiness scale scores at enrollment and in demographic and health status indicators (except for the predominance of Blacks and females), suggesting that the follow-up group, although small, was representative of the larger group of enrollees.

Although Project ASSERT findings are limited by lack of a control group (which was not permitted under the conditions of the CSAT demonstration grant), the program is clearly an innovative approach to linking ED patients with the substance abuse treatment system and with primary care and other preventive services. As a result of the significant reduction of harm indices for alcohol and drug use severity and associated problems demonstrated among the follow-up group, Project ASSERT received a City of Boston excellence award for customer service and has been funded as a line item by Boston Medical Center as an integral part of routine ED service.

Detection and referral projects for patients with alcohol and substance abuse that are currently being implemented and tested in a variety of general medical settings around the country employ nurses, physicians, social workers, and community outreach workers to implement brief interventions. Project ASSERT demonstrates the feasibility of brief intervention in an inner-city teaching hospital ED, where patients have a high level of unmet needs for primary care and substantial numbers of patients have substance abuse problems.

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We wish to acknowledge the contribution of the Project ASSERT staff who collected data and provided unconditional service: Diane Barry, Kim Bordley, Janice Brown, Geraldine Burton, Humberto Carvalho, Judy Dyson-Mounds, Kevin Mulvey, Cecelia McBride, Estelle Mendes, Rachelle Pinto, Todd Stanley, Brent Stevenson, and Ludy Young. Consultation with and support from Steven Rollnick, PhD, was critical in the process of adapting the BNI to the ED setting.

Reprint no. **47/1/82923**

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