

Web-based Skills Training for PCPs on SBIRT

SBIR Phase II Contract # N44-DA-9-2214

Final Report

9/21/09 – 9/20/11

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SBIRT Training

Skills Training for Primary Care Providers

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Monday, September 12, 2011

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Site News

SBIRT Training Improves Clinical Skills!

08/15/11

Pilot test data show that SBIRT Training improved clinical skills, especially in providing brief interventions for substance use problems for both physicians and nurse practitioners taking the program. Thirty-four physicians and fourteen nurse practitioners took the training and pre- and post-training assessments. In addition to significant improvement in clinical skills, physicians also improved significantly in knowledge about SBIRT training and both groups had improvements in specific attitudes with respect to their roles in SBIRT training or its effectiveness. The controlled summative evaluation is ongoing and more data will be reported shortly.

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Training

- Screening, Brief Intervention and Referral to Treatment - online training
Up to 4.0 AMA PRA Category 1 Credits™
 - SBIRT: Brief and Effective Substance Abuse Screening
 - SBIRT: Brief Intervention and other Treatments
 - SBIRT: Referral to Treatment and Follow-up Care
 - SBIRT: In Practice! Interactive case-based learning
- Read the Program Description or PDF Description of the project.

Development of these modules is funded by the National Institute on Drug Abuse (NIDA #HHSN271200800036C / HHSN271200900036C).

Supported by the American Society of Addiction Medicine

Resources

- The NIDA Quick Screen Online Tool
- The NIDA NMASSIST Screen in PDF
- Screening Instrument choices
An annotated list of common screening instruments with links
- Online addiction resources
Our list includes 50 of the best web-based addiction research & treatment resources
- Physician locator websites
Find addiction specialists, counselors, and treatment centers in your area

More Training

- Centerpoint Professionals Training
Up to 5.75 AMA PRA Category 1 Credits™
- SBIRT Alcohol Training
Up to 2.0 AMA PRA Category 1 Credits™
- SBIRT Tobacco Training
Up to 2.75 AMA PRA Category 1 Credits™
- SBIRT Motivational Interviewing Training
Up to 1.0 AMA PRA Category 1 Credits™

Screening and Brief Intervention News Feed from PubMed

- Instruments to detect alcohol and other drug misuse in the emergency department: a systematic review.
- Design of NIDA CTN Protocol 0047: Screening, Motivational Assessment, Referral, and Treatment in Emergency Departments (SMART-ED).

[more](#)

What Do You Think?

I screen new patients for past and current substance abuse:

All
 Most
 Some
 None

[Vote](#)

Recent User Comments

"This has changed my attitude significantly towards brief intervention/plan." *Anonymous User Comment* (September 2011)

"Best learning experience with patient encounter." *Anonymous User Comment* (August 2011)

Funded by the National Institute on Drug Abuse (NIDA #HHSN271200900036C).
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Site Last Updated: Monday, September 12, 2011 - 7:21am

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September 20, 2011

EXECUTIVE SUMMARY

This report describes in detail the achievements for the SBIR project, *Web-based Skills Training for PCPs on SBIRT (N44DA-9-2214)*, project period Sept 21, 2009 through Sept 20, 2011.

In order to help reduce the significant public health substance use problem, Clinical Tools, Inc. created *SBIRTTraining.com*, a web-based training program that aims to improve the screening, brief intervention, and referral to treatment (SBIRT) practices of health care providers. The program provides training in these clinical skills and then provides the opportunity to immediately practice the skills learned, complete an assessment, and receive immediate feedback. The target audience is primary care providers. *AMA PRA Category I Credit™* is provided and an application to be able to provide American Academy of Family Physician credit application is pending. An interactive approach with many case examples supports practice change. The opportunity to practice clinical skills taught in the didactic portion of the training via an interactive, online simulated clinical experience is a unique component of this training program.

The product can be seen at www.SBIRTTraining.com and includes the following:

- An integrated continuing medical education training program consisting of
 - Didactic courses illustrated with case examples of common clinical scenarios and including sample dialogues
 - Polls that focus on grey areas of practice, permitting the audience to learn opinions of peers.
 - Interactive, case-based opportunities to practice clinical skills online
- Resources section containing a searchable database of links to over 250 resources, including links to the screening and assessment tools needed for SBIRT
- Discussion forum

The clinical assessment following completion of the program includes the following features:

- A simulated electronic medical record to present the case
- Clinical choices made by the user based on sample doctor patient dialogue
- A simulated patient encounter note completed by the user
- Feedback on performance for the clinical choices made and the patient encounter note will be provided immediately

In Year 1 of Phase II, we focused on refining the curriculum plan; developing content and the user interface, conducting usability tests, developing the online, case-based simulated clinical practice experiences, and obtaining Office of Management and Budget (OMB) clearance to conduct a summative study with greater than 9 participants.

In Year 2 of Phase II, we focused on refining the curriculum plan, finishing development of content and clinical practice experiences, further developing functionality for the user interface, continuing to obtain OMB clearance, conducting the final usability study, pilot testing and a summative study of the core training program with the target audience.

A group of 50 members of the target audience (n=35 MDs and 15 NPs/PAs) completed the pilot study of the core training program. Analysis of their program assessment results showed significant improvement in clinical skills overall, and brief interventions skills specifically, for both physician and nurse practitioners. Each audience group improved on certain statements regarding their attitudes

toward their role in SBIRT. Knowledge regarding SBIRT also improved for MDs from pre- to post-. There were few significant differences on assessments between the two groups prior to training.

The summative evaluation of the training program, a controlled comparison pre- to post-training assessments, was completed by 33 intervention group participants and 41 control group participants, all of whom were primary care physicians. Results showed significant improvements pre-training to post-training for the intervention group in scores on knowledge ($p \geq 0.009$) and clinical skills assessment using a patient record, in comparison to controls. Furthermore, following training, nearly all participants intended to increase their use of brief interventions regarding tobacco, alcohol and drug use and to followup with patients after brief interventions or referral. Audience satisfaction with the program was high as was their rating of the educational value of the program. Other measures detailed in this report had similarly encouraging results.

Appendices include more detailed information on the curriculum, assessments, usability testing, and the summative evaluation activities and results.

The SBIRTTtraining.com program is currently available and we plan an official website launch in November 2011.

SUMMATIVE STUDY: EVALUATION OF CORE TRAINING PROGRAM & REVISED ASSESSMENT INSTRUMENT
Summative Study: Goal

The goal of the Summative Study was to complete a controlled, comprehensive evaluation of the completely developed training program, *SBIRT Training*.

Summative Study: Methods

Recruitment: Recruitment continued as described above for the Pilot study, except that only physicians were recruited and participants were assigned to either the control or intervention group in an alternating fashion. Subjects in the Intervention group completed knowledge, attitude measures, and the clinical skills assessment at baseline (pre-assessment), immediately after completing the training courses (post-assessment), and at a follow up point approximately three weeks after completing the intervention (follow-up assessment) (please refer to the timetable below). Participants in the control group completed the knowledge, attitude measures, and the clinical skills assessment at the beginning of the study (pre-assessment 1) and again at the three-week point of the study (pre-assessment 2). They had a three-week waitlist period prior to crossing over to complete the intervention. The study length for participants in either group was around 7 weeks from their enrollment in the study. All interested parties were offered the option of taking *SBIRT Training* without being in the evaluation.

Target enrollment was approximately 30 completions of pre- and post-training assessments from each group, intervention and control. We over-enrolled to achieve this number but drop out rate was lower than anticipated.

Summative Evaluation Timetable

Participants (3 month recruitment period)	Initial Assessment	Three-week Interval	Second Assessment	Three-Week interval	Third Assessment
	Start of Week 1	Weeks 1-3	Start Wk 4	Weeks 4-6	Week 7
Group A Intervention	Pre- Assessment	SBIRTTtraining.com educational	Post- Assessment	Post-Intervention Interval	Follow-up Assessment

		materials	t		
Group B Control	Pre-Assessment	No Intervention	Repeat Pre-Assessment	SBI RT Training.com educational materials	Post-Assessment

Assessments: The assessment instrument consisted of the following main sections:

- Knowledge Measure – 7 questions
- Clinical Assessment – Case Vignette quiz – 8 questions (1 participant chose the OSCE in the Summative Study)
- Medical Record Patient Encounter Note – 26 possible points
- Attitude Assessment – 11 questions
- Practice Change Questions (Pre- 10 questions; Post- 20 questions)
- Barrier Questions (12 questions)
- Satisfaction and Educational Value (Post only; 6 questions; 8 questions)

All of the sections were included in the Pre-, Post-, and Follow-up assessments, except Satisfaction and Educational Value, which were only in the Post-Test. In addition to the assessments used in the Pilot study (knowledge, attitude, clinical assessment consisting of quiz and patient note), participants completed surveys on their practice, satisfaction with the program, and educational value of the program. The assessments were described in detail and illustrated in the section on content, Objective 2, as most of them are also part of the regular training program. The complete Pre- and Post- Training Assessments are included in Appendix D.

User Experience: The participants proceeded through pre-program assessments, the four core program courses, and the post-program assessments at their convenience.

Data Analysis: Patient notes, knowledge, case-vignette quiz, and attitude data were analyzed as described for the pilot test. Additionally, the percentages of respondents whose answers were high or low on Likert scale, that is, corresponding to ratings of 4 or 5 or 1 or 2 on a 1 to 5 scale, were also recorded. Percentages were calculated for categorical data, such as that for perceived barriers or yes-no responses to practice change questions. For all categories of data, a two-sample paired t-test was performed on the intervention group and control groups pre- and post-, but unpaired t-test to compare pre- to follow-up do to drop out over the follow-up period.

Qualitative data analysis. The patient note was analyzed as described in the pilot study. Other qualitative data was simply collated and reviewed for themes and their frequency due to the low number of responses for these elective questions.

Summative Study: Results

Program Results

A total of 33 intervention participants completed the evaluation assessments pre- and post training plus the core training courses; 12 went on to complete assessments at the followup time. A total of 41 control participants completed the evaluation assessments at 0 weeks and again after a 3 week wait period. A total of 16 went on to complete the core training courses and assessments post-training. A number of participants did not complete the training prior to the cut-off date, but still will be permitted to finish the training.

Demographics

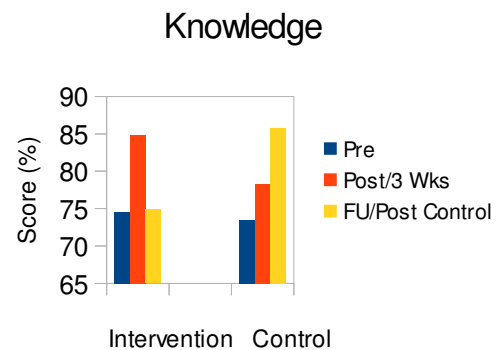
Participants were fairly well distributed in terms of gender, race, and ethnicity. (See enrollment tables in Appendix E). All participants were primary care physicians. Participants were mostly medical residents. Ninety-seven percent (97%) were specialists in Family or Internal Medicine and around 83% practice either in an academic setting, private practice, or at a community center.

The final enrollment was 33 in the intervention group and 41 in the control group, enrollment being determined by completion of the first two assessments. For the intervention group the first two assessments were pre-training and post-training; for the control group the assessments were pre-training 0 weeks and pre-training 3 weeks. The control group took the pretest again because the questions on the pre- and post-test were identical except for satisfaction/educational value. We speculate that the control group had less drop out at this point because they did not have to complete the training program until after the 2nd assessment.

Pre-/Post- Knowledge

Intervention vs. Control.

There was significant improvement in the knowledge scores from pre- (74.5%) to post-training (84.9%) for the intervention group ($p \geq 0.009$). Knowledge scores for the control group also improved from 0 weeks (73.5%) until 3 weeks after the waiting period (78.4%), but not significantly ($p \geq 0.08$). The control group also improved from pre- to post- training (mean improved from 73.5% to 85.8%, $p \geq 0.02$). The mean post- score on the knowledge test for the intervention group was above the passing level of 70%. The mean followup score for the 12 intervention members who participated decreased from the mean post-training score of 84.9% down to 74.9%, however an outlier score of 29% for one participant pulled down the mean for this small group considerably.



Pre-/Post- Attitude

Attitudes were fairly high regarding SBIRT at the start of the program (with over half of the pre-training attitude statements being rated a mean of over 4.2 agreement on a 5 point Likert scale). For example:

- "It is my role as a primary care provider to screen every patient for alcohol, tobacco, and illicit drug use" (mean agreement score pre-training of 4.5 out of 5).
- "I can provide better care to my patients if I screen for substance use, including alcohol use and nicotine use" (mean agreement score pre-training of 4.5 out of 5).

The lowest rated attitude statement pre-training and also the statement showing the biggest improvement was

- "I am familiar with the resources for referral for alcohol, tobacco, and illicit drug treatment in my area" (mean agreement score of 2.9 rating out of 5).

The other statements showed no change beyond a few points of increase, which were also seen in the control group.

For followup participants from the intervention group, seven out of the eleven attitude statements increased from pre- and post- values. The attitude statement "I can provide better care to my patients if I screen for substance use, including alcohol use and nicotine use" rated the highest

(4.8 out of a 5). The rating of the attitude statement "It is important to screen established patients for these issues, even when there is no indication of a previous problem" went from 4.2 on both pre- and post- to 4.6 on the followup.

Practice Behavior Change

Post-Training Intended Behavior Change

Intervention participants answered an additional questionnaire post-training that asked whether or not they would increase 10 specific behaviors related to SBIRT. The four behaviors with the highest percentage of participants answering "yes" were:

- Increasing brief interventions for tobacco (97% of participants)
- Increasing brief interventions for alcohol (94% of participants)
- Increasing brief interventions for drugs (97% of participants)
- Increasing followup after substance abuse treatment (94%)

The behavior rating the lowest percentage of participants who will increase it was screening for tobacco use (70% "yes"). This may be because of the high level of screening for tobacco use currently.

Control participants answered "yes" to all ten statements when asked whether or not they would increase specific behaviors related to SBIRT. In addition to participants answering "yes" to the four behavior statements listed above regarding brief intervention and followup, participants responded "yes" to behaviors regarding screening and referrals:

- Increase screening for alcohol use problems (100%)
- Increase screening for tobacco use problems (100%)
- Increase screening for illicit drug use (100%)
- Increase referrals for alcohol use problems (100%)
- Increase referrals for tobacco use problems (100%)
- Increase referrals for illicit drug use (100%)

Pre- Desired Behavior Change to Post- Intended Behavior Change

Several other behaviors were compared pre- to post-training. Two behaviors had an increase in percentage of participants in the intervention group planning to make "considerable" or "significant change" in them. These were:

- "Screen for illicit drug use" (42% pre- to 48% post-)
- "Refer patients for tobacco use problems" (52% pre- to 64% post-)

The percentage of intervention participants planning to make "considerable" or "significant change" either decreased or stayed the same pre- to post- for the other eight practice behaviors listed. (See Appendix E)

The behaviors for which the largest group intends "no change" or "little change" were screening for tobacco and alcohol, each chosen by 36% of participants. This may reflect the current high rate of basic screening for tobacco and alcohol use.

At followup, percentage of intervention group participants planning considerable or significant change went up from pre- and post- values for five behaviors. Examples:

- "Follow-up with and reassess patients who receive treatment for substance abuse or tobacco use" (increased from pre- and post- rates of 67% to a followup rate of 100%)
- "Screen for illicit drug use" (increased from pre- 42% to followup 55%).

For control participants, four behaviors had an increase in percentage of participants planning to make "considerable" or "significant change" in them when compared pre- to post-training:

- "Refer patients for alcohol use problems" (49% pre- at 0 weeks to 63% post-)
- "Refer patients for tobacco use problems" (41% pre- at 0 weeks to 63% post-)
- "Refer patients for illicit drug use" (46% pre- at 0 weeks to 63% post-)
- "Follow-up with and reassess patients who receive treatment for substance abuse or tobacco use" (46% pre- at 0 weeks to 69% post-)

Barriers to Using SBIRT in Practice

Large changes were seen in the percent of participants who perceived barriers to SBIRT training from pre- training to post-training, with a shift from seeing something as a barrier to either seeing it as not a barrier or as still a barrier, but one that the training program helped. The barriers with the biggest shift from pre- to post- were:

- "Patient resistance to discussing these topics" (increased from 48% of participants perceiving it as a barrier pre-training to 97% seeing it as either not a barrier or a barrier that the program addressed post-training)
- "My lack of training in treating these areas" (a barrier for 21% of participants pre-training changed to 91% of participants saying the program had addressed the barrier post-training)

The most frequently selected barrier that participants felt that the training *did not* help address was:

- "My lack of time w/my patients" (79% felt it was a barrier pre-training and 45% felt the program had helped address the barrier but 36% did not feel the program had helped with this barrier post-training)

We will address this issue in cases we develop for the advanced courses, showing how SBIRT can be used efficiently.

For control participants, large changes were also seen in the percent of participants who perceived barriers to SBIRT training.com from pre- to post-. There were seven statements post-training where 100% of participants perceived previous barriers as either not a barrier or a barrier that the training program helped address post-training.

Clinical Assessment:

Clinical Choice Quiz

Participants answered 8 questions, that required them to make clinical decisions based on a case scenario, both before and after taking the training program. A majority (70%) of the intervention group passed (score of 70% or greater) on the post-training assessment. There was a small improvement in the intervention group's mean scores pre- (73.7%) to post- (76.9%) but the improvement was not significant ($p \geq 0.25$) and the control group improved similarly during the wait period. The control group, however, did improve significantly from pre-training at 0 weeks (68.7%) to post-training (78.4%) ($p \geq 0.04$). This is in keeping with the results from the pilot study.

Clinical Assessment Quiz Pre- to Post- Results (n=30 MDs and 13 NP/PAs)

	Mean Pre-Score (%)	Mean Post-Score (Intervention) or Pre 3 wks (control) (%)	p value	Followup	Pre- to 3 rd measure p value
Intervention	73.7 (SD=12.8)	76.8 (SD=12.8)	0.24	75.2 (SD=14.1) (n=12)	0.74
Control	68.7 (16.6)	71.6 (SD=13.5)	0.28	78.4 (SD=12.8) (n=)	0.03

Clinical Choice Quiz Follow-up Data. A subset of 21 MDs and 8 NP/PAs took the clinical choice quiz again at several weeks followup. Although an improvement was maintained pre- to follow-up for the clinical choice questions for both MDs and NP/PAs, it was not a statistically significant improvement.

One quiz question pertaining to which substances to include in screening performed poorly in that 100% of participants got it correct. We elected not to change the question because it underscores the importance of screening and far less screening is done in actual practice. The question with the highest degree of difficulty related to choosing the best screening tool. We added more emphasis in the training program rather than change the question.

Patient Encounter Note

Differential Diagnosis

1. Otitis media, resolving, mild

Instructions: In order of likelihood, write no more than 5 other differential diagnoses:

- acute otitis media
- viral infection
- drug seeking behavior

Diagnostic Work Up

Instructions: Describe any immediate plans for no more than 3 further diagnostic studies:

DSU 9

Tentative Treatment Plan

Question: What would you say to Jacob in a brief intervention?:
I think that you would be better off by trying not to use oxycodone. The negative effects of using this can be quite severe. I would like to help you if you let me.

Question: Treatment Options (choose the best option):
Ask Jacob to cut down on his oxycontin use

Other Treatment:

- follow up
- counseling

Instructions: Describe any specialty consultations/referrals that are needed:

Instructions: Describe any follow-up plan:
Follow up in 1-2 weeks, frequent follow ups

Sample from a patient note filled out by a research participant

Above is a sample patient note filled out by a participant. Patient notes for the participants were compared to “Expected Results” and scored out of a total of 26 possible points. Scores improved significantly from pre- (48.1%) to post (53.8%) for the Intervention group ($p \geq 0.04$). Scores *decreased* significantly for the control group after the waiting period, going from 46.9% to 40.4% ($p \geq 0.006$), which suggests a trend effect took place during the repeated measure. A comment from one participant suggests that the trend effect might be boredom: "Difficult to review the same case again, a little boring and promotes us to click through faster than the first time." This would increase the significance of the improvement made by the intervention group. Scores improved the most for mentioning possible substance abuse in the differential diagnosis, including substance abuse assessments in the list of diagnostic tests, and describing 3 brief interventions that would be appropriate for the patient.

Significant Changes in Patient Note (70% passing)

Patient Note Section (Maximum Possible Points)	Control (n=41)			Intervention (n=31)		
	Pre-0 wks Mean % Score	Pre-3 wks Mean % Score	Mean % change	Pre-Mean % Score	Post-Mean % Score	Mean % change
Differential Diagnosis (1)	68.3	58.5	-9.8	62.5	80.8	18.3

Labs/Diagnostic Tests/Assessments (2)	25.6	24.4	-1.1	28.1	39.9	11.8
Brief Intervention (6)	53.2	44.2	-9	55.9	71.5	15.6
Overall mean (26)	46.9	40.4	-6.5	48.1	53.8	5.7
<i>p value</i>		p≥0.006 (negative change for Control)				p≥0.04 (positive change for Intervention group)

Percent of participants who passed. The mean post-training score for the intervention group (53.8%) was less than passing (70%), but more participants in the intervention group passed post-training (24.2%) than in the control group (17.1%) after they completed the training in the crossover part of the study.

Followup results. Results for the patient note for the followup study are still being analyzed as they were completed in the last week of the project. A detailed description of the results for the patient note is found in Appendix E.

Feedback. In the final product, participants will only complete the case once and will immediately be given feedback on their performance, which should go a long way toward decreasing any boredom experienced in repeating this test multiple times with no feedback and will hopefully make the exercise more meaningful. Furthermore, we changed the case to quickly rule out an earache as a problem, so that participants will be able to focus more on the substance abuse issue.

Web OSCE Results

Despite keeping the OSCE available daily from approximately 9 am to 330 pm, only two participants in the pilot and summative study started the Web OSCE option. Only one participant completed all the assessments and the other did only the patient interview. Both participants opted for the case vignette option the second and third times around. Both participants had difficulty covering the whole case in the time allotted so did not score well on the Rate the Clinician form. It is not surprising that the participant who did the whole OSCE did not do as well on the patient note assessment. The interpersonal inventory scores from the actor and the participant paralleled each other. The most common reason given for not taking the OSCE was perceived time to complete it (43%). Almost as frequently, participants gave the reason that the Web OSCE was not available as the reason why they did not use it (40%). A check of time stamps shows that 78% of participants took the clinical assessment outside of our business hours, in fact around 20% took the clinical assessment between midnight and 3 am. Nearly as frequent reasons for not taking the OSCE option were the case vignette appearing interesting interest level (38%), perceived level of learning (34%), and interest level (28%). As a result of the apparent low interest in the OSCE, will likely emphasize the Case Vignette in the training program and offer the WebOSCE as an optional enhancement.

Program Educational Value and Satisfaction

Educational Value. Educational value was rated fairly highly. When given the choice of *few*, *some*, or *most*, the majority of participants (62%) said that “some (26%-50%)” of the content was new to

them and 36% of participants chose "few content (1-25%)." The majority of participants agreed that the program improved knowledge (100% of participants), competence (91%), performance (70%), and patient outcomes (61%). A high percentage of participants agreed or strongly agreed (91 to 100%) that the program supported achievement of the four core program learning objectives. There was strong agreement or agreement by 100% of participants that the program would impact their practice and that the program promotes improvement in healthcare.

Satisfaction. Participant satisfaction ratings were high overall, using a satisfaction survey that we have validated previously and used extensively in rating our programs. Passing is considered greater than or equal to 70% agreement or strong agreement. Ratings ranged from a mean of 4.2 to 4.6 on a scale of 1 to 5 for agreement with six satisfaction statements.

Amount of Agreement	Satisfaction Statement	Rate of Agreement/Strong Agreement
Statements having the <u>highest</u> agreement	"This program was presented objectively and was free of commercial bias." "Overall, this was a useful learning experience."	100%
Statement having the <u>lowest</u> agreement	"I was able to navigate the website easily."	88%

Many improvements on the program navigation and instructions have been made in response to specific findings during usability testing that should contribute to satisfaction with navigation improving.

Qualitative Program Satisfaction Data

Case vignette question. In response to the qualitative satisfaction question about the case vignette, 40 users made comments, the majority of which concerned wanting immediate feedback, something that will be provided in the final program. We did not provide feedback until the final assessment was completed during the summative study. Other comments concerned the following: wanting more clarity on the clinical quiz questions, wanting more choices in the question on brief intervention, and expressing an interest in the WebOSCE. Most issues were addressed by adding additional instructions, rewriting several quiz questions, and making minor revisions to clarify the case, and other issues will be addressed in future programming changes.

Additional topics requested. Few of the participants (n=5) identified additional topics they would like in the training program. Most requests referred to the following topics that were covered in the program or in the resources: communication with patients, depression screening tools, screening tools for teenagers, and how to fit in SBIRT while evaluating another problem. The other requests were for information on topics that we cover in our other practice change programs: how to apply SBIRT to obesity and how to manage opioid withdrawal and treat opioid addiction in the outpatient setting. We responded to these requests by making these internal and external resources more prominent.

Ten of the 124 participants in both the pilot and summative studies elected to provide favorable comments about the program that we could publish on the website homepage. For example:

"This has changed my attitude significantly towards brief intervention/plan."

“Best learning experience with patient encounter.”

“This was a helpful learning experience for me and will increase my effectiveness with my patients.”

“I highly recommend this course to primary care physicians!”

“A good crash course in learning which screening tools can be used in the office.”

A complete description of satisfaction issues and how they were addressed is found in Appendix E.

Post-Course Evaluation Results

Self-Efficacy Regarding Course Objectives

Participants exhibited a high rate of self-efficacy after taking each course. For this data analysis, we included data from all users of the courses, both pilot and summative, whether or not they completed the program. They rated their agreement with self-efficacy statements regarding their clinical skills related to course objectives on a 5 point Likert scale. A large majority agreed or strongly agreed with self efficacy statements related to course objectives. All but three statements were rated agree or strongly agree by over 90% of participants. The statements rated the lowest (86 to 88% agreement) were confidence in selecting the proper type of treatment when a referral is needed, ensuring ongoing care after making a referral, and triaging patients to the right level of care. Only a small minority disagreed or strongly disagreed. Complete data on the post-course evaluations is found in Appendix E.

Summative Study: Discussion

SBIRTTraining.com core training program successfully resulted in improvement in knowledge and a number of SBIRT related clinical skills for primary care providers in comparison to controls. The clinical skills that improved significantly were mentioning the substance use problem in the differential diagnosis, planning to order appropriate labs and conduct more comprehensive screenings/assessments when appropriate, and providing brief interventions. Mean performance on the multiple choice portion of the clinical assessment was passing post-training, and there was significant improvement pre- to post- in most groups. Following the training, the providers' intention to use brief interventions and to follow up with patients who have substance use problems was high. Furthermore, a high majority of participants felt the training helped them with the barrier of patient resistance to discussing these topics.

The participants rated the success of the program in achieving each of its objectives highly. Thus, the summative evaluation offered evidence that the *SBIRT Training* program achieves its goal:

The learner will be able to appropriately screen for and identify substance abuse, plan and implement a tailored brief intervention, improve care management and referral skills for brief treatment or severe problem/addiction treatment, and will apply the SBIRT approach to substance abuse problems by individualizing these clinical skills to different patients.

CONCLUSIONS

We have developed a comprehensive website called SBIRTTraining.com on how to provide screening, brief interventions, and referral to treatment for substance use problems. The target audience is primary care providers and hospital staff and a secondary audience is all health care providers.

The curriculum plan was developed based on a needs analysis of the practice gaps found in the literature and noted in a needs analysis we conducted with target audience members as well as

with input from experts in the field. The final content for each course was reviewed by expert consultants. The website has been extensively tested in usability testing with target audience members and is fully functional.

SBIRTTtraining.com consists of a core training program which is activated, and an advanced program which will be created in Phase III development. The core program consists of three courses that teach the SBIRT steps and are illustrated with interactive cases and a case-based course with interactive case vignettes for integrating the first three courses and practicing clinical skills. The advanced program will consist of three additional courses with the same format. An objective structured clinical examination (OSCE) based on an interactive case vignette is used at the end of the program to assess skills. Feedback is provided immediately. An alternative OSCE based on a remote, live, standardized patient via online chat is also available as an option during business hours. The website also includes a searchable database of several hundred external resources, a discussion forum, and a news feed from Pub Med on related research.

As we complete the contract period, the core training program including its pre-/post-training assessments has been completed by over 100 users. A controlled summative evaluation of the website was completed and analysis of results indicated that completion of the core training program resulted in significant pre- to post-training improvement in knowledge and clinical skills, especially differential diagnosis, assessing substance use problems, and providing brief interventions. Participants rated educational value and satisfaction with the program highly and set personal goals for making practice changes.

With this encouraging start, we believe that we have developed a health professional development program that will improve clinical practice and thus, patient outcomes with respect to substance use problems.