

Outcome *(continued)*

At follow-up, participants who attended the CS2day launch event were asked what resources and strategies enabled them to make practice changes using the methods and techniques learned during the CS2day program. Fifty-one percent noted heightened awareness of efficient techniques. Integrating (tobacco dependence interventions) as part of routine were reported by 55%, followed by support staff utilization (20%).

The principle barrier across programmatic evaluations and almost the only one reported to changes in practice, was lack of time (44%). This finding provides evidence that a brief intervention, as opposed to an intensive intervention, may be the most effective and efficient strategy to teach providers since it can be implemented in approximately three to ten minutes.

Finally, 94% of respondents felt that the information presented in the program allowed them to provide a more targeted treatment to patients who use tobacco.

Conclusions

A number of conclusions can be drawn from the CEASE/HCP programs and evaluation:

- **First**, the majority of participants in all of the programs reported that their objectives were met with regard to content and delivery, and that the activity was free of commercial bias.
- **Second**, time limitations of the one-hour program precluded the possibility of collecting several of the measures collected in the four-hour program (pre-posttest, measures of skill practicing, and measures of confidence in ability to carry out new practices). Therefore, differences in evaluation tools used to measure program outcomes do not permit comparison across all outcomes. Two common measures, satisfaction and intentions to change, were reported at high levels.
- **Third**, both the four- and the one-hour programs impacted participant knowledge of interventions and treatments regarding the prevention and treatment of tobacco use and intentions to systematically incorporate new clinical activities into their practice. Participants who attended the four-hour program, using the curriculum that went into more depth about each of the practices and where participants had the opportunity to practice new skills, reported higher levels of intent to incorporate new interventions and treatments to ameliorate tobacco use.
- **Fourth**, posttest confidence gains in the four-hour program were higher than posttest knowledge gains, particularly answers to case study questions.
- **Fifth**, among those who participated in the follow-up, many reported an increase in patient referral to intensive tobacco dependence treatment programs.
- **Sixth** and most important, healthcare providers are constrained by time with regard to attending CME programs, even programs regarding one of the nation's most pervasive and harmful health problems. This is demonstrated in the distribution of participants across programs: 8% of the total participants attended the launch

program (6.5 CMEs), 8% attended the four-hour CME program, and 84% attended the one-hour CME program. Furthermore, time was identified in the follow-up survey as being the primary constraint in incorporating interventions and treatments into routine practice.

As a result, time is a critical variable in the treatment of tobacco use, in terms of both acquiring the knowledge, skills and confidence required to implement a brief intervention as well as interacting with patients in point-of-care settings to impact health outcomes.

In summary, the combination of The University of Arizona HealthCare Partnership Tobacco Dependence Treatment Continuing Education programs integrated with the CS2day resources added **290** new Arizona health care providers to the index of tobacco control health influencers. The new health care providers demonstrate the commitment to interact with their patients to assist them in abstaining from long term tobacco use.

The impact of these CME programs will undoubtedly result in positive outcomes for numerous tobacco users and their families as these providers gain experience in implementing the interventions and treatments discussed.

References

- Ajzen I. The theory of planned behavior. *Organizational Behavior and Human Decision Processes*. 1991;50(2):179-211.
- Bandura A. Self efficacy: toward a unifying theory of behavioral change. *Psychol Rev* 1977;84:191-215.
- Cummings KM, Giovino G, Sciandra R, Koenigsberg M, Emont SL. Physician advice to quit smoking: who gets it and who doesn't? *Am J of Prev Med*. 1987;3(2):69-75.
- Fiore MC, Jaen CR, Baker TB, et al. *Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline*. Rockville MD: U.S. Department of Health and Human Services; Public Health Service; 2008.
- Healthcare Partnership. 2005. *Helping Smokers Quit: Building Capacity for Tobacco Dependence Treatment in Arizona*. Report submitted to the TRUST Commission on February 15, 2005. Phoenix, Arizona.
- Leishchov R, Gilles M, Strayer L, et al. Multimodal education interventions promote clinical practice guideline implementation in the treatment of tobacco use and dependence. Poster presented at: 10th Annual Meeting of Society for Research on Nicotine and Tobacco; February 2004; Scottsdale, AZ.
- Moore D, Green JS, Gallis HA. Achieving desired results and improved outcomes: Integrating planning and assessment throughout learning activities. *The Journal of Continuing Education in Health Professions*. 2009; 29(1):1-15.
- Ockene JK, Zapka J. Changing provider behavior: provider education and training. *Tobacco Control*. 1997;6(1):S63-67.
- Prochaska JO, Velicer WF, DiClemente CC, Fava J. 1988. Measuring processes of change: applications to the cessation of smoking. *Journal of Consulting and Clinical Psychology*; 56(4):520-8.
- Stead LF, Bergson G, Lancaster T. 2008. Physician advice for smoking cessation. *Cochrane Database of Systematic Reviews*, Issue 2. Art. No.: CD000165. DOI:10.1002/14651858.CD000165.pub3.
- Whitlock EP, Orleans CT, Pender N, Allan J. Evaluating Primary Care Behavioral Counseling Interventions. *Am J of Prev Med*. 2002;22(4):267-284.



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The Right Message at the Right Time Evaluation of Continuing Education Programs

Disseminating the Recommendations of the U.S. Public Health Service Guideline: *Treating Tobacco Use and Dependence (2008)*
Low Intensity/Brief Tobacco Dependence Treatment Interventions as a Standard of Care

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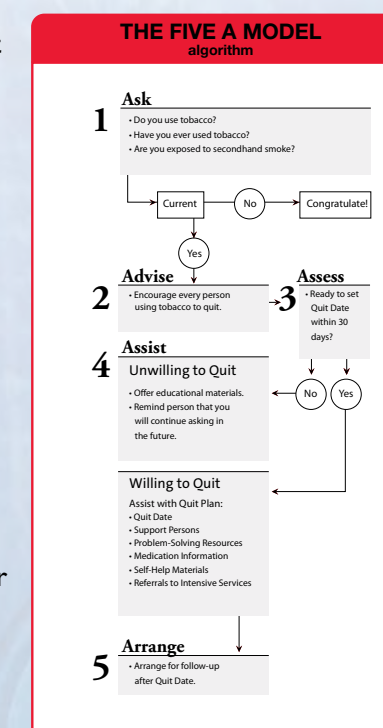
Abstract

Time is a critical variable in the treatment of tobacco use and dependence. Time availability impacts the acquisition of knowledge, skills and confidence required to implement evidence-based brief interventions while attempting to mobilize a health risk behavior change. The blending of The University of Arizona HealthCare Partnership (HCP) www.healthcarepartnership.org continuing medical education programs with CEASE Smoking Today/CS2day www.CS2day.com resources added 290 Arizona health and human service providers to the index of providers building systems as recommended by the U.S. Public Health Service Guideline: *Treating Tobacco Use and Dependence (2008)*.

Background

In 2009, The University of Arizona HealthCare Partnership received a grant through the Physicians' Institute for Excellence in Medicine to provide education to improve and expand the treatment of nicotine addiction within health and human service settings. The Physicians' Institute (a nonprofit subsidiary of the Medical Association of Georgia) is a partner in the CS2day initiative. CS2day is a multi-organizational education initiative designed to provide physicians and other healthcare professionals with effective and clinically relevant strategies targeted to increase the smoking quit rates for patients followed in multiple practice settings. Nine partners, working in cooperation with myriad organizations, are collaborating on this multiyear initiative to develop an unprecedented

Exhibit I.



and comprehensive approach to intervene and decrease the smoking rates in the United States. As a result of this initiative, the HCP delivered their continuing medical education (CME) programs along with a daylong launch program to health care providers across Arizona with the intent to improve the treatment of nicotine addiction within health and human service settings. The HealthCare Partnership is a Unit within The University of Arizona College of Science, Department of Psychology. Since 1998 HCP has designed, tested and implemented 15 evidence-based certification programs that recognize and are intended for differing contexts, intensities, and provider roles in the delivery of the prevention and treatment of tobacco dependence. The programs use multimodal educational methods and techniques and are based on a stepped care model. We describe the content, delivery and outcomes of the *Right Message at the Right Time* programs delivered in Arizona to health care providers and compare the impact of the longer versus the shorter program.

Methods

Delivery

HCP delivered 12 CME tobacco dependence treatment programs from June through October 2009.

The program series was launched by hosting an all-day event. Twenty-four providers were in attendance. They were introduced to the CS2day grant process, motivational interviewing for tobacco dependence, and adjunct tobacco control information. Attendees received a menu of 4 CME programs as delivered by the HealthCare Partnership. From the menu, 8 program requests were submitted: three for the 4-hour *Basic Tobacco Intervention Skills Certification for Medical and Allied Health Professionals* and five for the 1-hour *Tobacco Dependence Treatment Continuing Education for Healthcare Professionals Program*. Three additional requests were submitted post the event resulting in a total of 12 programs delivered through the grant.

Content

Basic Tobacco Intervention Skills Certification for Medical and Allied Health Professionals

This 4-hour CME program was delivered at 3 medical care venues in Arizona. A total of 22 participants attended. The program is designed to equip medical and allied health

Methods *(continued)*

professionals with a consistent, evidence-based, evaluative process for delivering a low-intensity/brief intervention to those who use tobacco and for documenting the intervention. Participants learn to:

- **Screen** and assess for tobacco use and exposure to environmental tobacco smoke.
- **Conduct** an integrated, stage-specific “Five A Model” brief intervention for tobacco cessation.
- **Demonstrate** effective use of patient self-management resources to encourage tobacco cessation.
- **Describe** pharmacotherapy for tobacco cessation.
- **Document** intervention(s) for the prevention and treatment of nicotine dependence.
- **Establish** office protocols to systematically treat tobacco use and dependence.
- **Refer** patients/clients to intensive tobacco dependence treatment programs.

As part of the program, participants received a packet that included a CS2day Toolkit www.CS2day.com overview as well as electronic resource updates post program.

Tobacco Dependence Treatment Continuing Education Program

This 1-hour CME program was presented at 8 medical care venues in Arizona, including 1 telemedicine videoconference. A total of 244 participants attended these programs. The program is designed to increase knowledge, skills, and confidence to implement evidence-based practices for tobacco use prevention and treatment. The curriculum covers a menu of topics including, but not limited to:

- **Diseases** and deaths associated with tobacco use in the United States.
- **The** biological, psychological, and sociocultural factors associated with nicotine addiction.
- **Clinical** practice recommendations for clinician interventions.
- **The** “Five A Model” construct.
- **Clinical** practice recommendations for pharmacotherapy and treatment options.
- **Relapse** prevention and intervention.
- **Coding** and billing for reimbursement, and
- **Quality** and performance measures.

Evaluation

Since 1998, HCP’s evaluation design has measured participant confidence to translate learning to practice, future intentions, and behavior change through a 3-pronged approach that entails Moore’s Model of Outcomes Evaluation, Bandura’s Model of Self-Efficacy and Ajzen’s Theory of Planned Behavior. Evaluation methods include:

- Pretest/Posttest of Self Confidence
- Skills Demonstration
- Pretest/Posttest of Knowledge
- Survey of Satisfaction
- Pre-Survey of Current Practice/Post-Survey of Intended Practice Change
- Follow-up

Data are gathered at workshop locations through pre-certification and post-certification surveys, and by mail and telephone for three month follow-up. Descriptive statistics of satisfaction measures are used for quality assurance and program improvement. Self-confidence is assessed via a two way analysis of variance (ANOVA) and Bonferroni corrected t tests. Participant’s mean response rate to all questions serves as the outcome variable and program location and time point (pre-, post-, three month, six month) serve as independent variables. Non-parametric versions of these tests are used at the level of the individual question.

Exhibit 2: Moore’s Model of Outcomes.

CME Framework	Description	Source of Data
LEVEL 1 Participation	The number of physicians and others who participated in the CME activity	Attendance records
LEVEL 2 Satisfaction	The degree to which the expectations of the participants about the setting and delivery of the CME activity were met	Questionnaires completed by attendees after a CME activity
LEVEL 3A Learning: Declarative Knowledge – Knows	The degree to which participants state what the CME activity intended them to know	Objective: pre- and posttests of knowledge; subjective: self-report of knowledge gain
LEVEL 3B Learning: Procedural Knowledge – Knows How	The degree to which participants state how to do what the CME activity intended them to know how to do	Objective: pre- and posttests of knowledge; subjective: self-report of knowledge gain
LEVEL 4 Competence – Shows How	The degree to which participants show in an educational setting how to do what the CME activity intended them to be able to do	Objective: observation in educational setting; subjective: self-report of competence, intention to change
LEVEL 5 Performance	The degree to which participants do what the CME activity intended them to be able to do in their practices	Objective: observation of performance in patient care setting, patient charts, administrative databases; subjective: self-report of performance
LEVEL 6 Patient Health	The degree to which the health status of patients improves due to changes in the practice behavior of participants	Objective: health status measures recorded in patient charts or administrative databases; subjective: patient self-report of health status
LEVEL 7 Community Health	The degree to which the health status of a community of patients changes due to changes in the practice behavior of participants	Objective: epidemiological data and reports; subjective: community members self-report

Adapted from [1] with permission.

Participant Background and Attendance (Level 1)

Both quantitative and qualitative data were collected to capture Levels 1 through 4 on Moore’s Model of Outcomes Evaluation.

A total of 290 healthcare providers attended the 12 programs. Program evaluations were completed by 219 participants (76%).

Exhibit 3: Participant Professional Background.

Degree (n = 185)	MD/DO	Nurse	Other		
	29%	10%	61%		
Specialty Focus (n = 179)	Primary Care	Psychiatry	Other Medical Specialties	Other	
	28%	15%	6%	51%	
Years in Practice (n = 177)	<5	5–10	11–20	>20	
	42%	13%	18%	27%	
Type of Practice (n = 176)	Private	Hospital	Academic	HMO	Other
	37%	33%	17%	1%	12%
Location of Practice (n = 163)	Urban	Suburban	Rural		
	55%	14%	31%		
Estimated Percent of Patients with Tobacco Dependence (n = 156)	0%–20%	21%–40%	41%–60%	61%–80%	81%–100%
	31%	28%	22%	13%	6%

The reported age span was 21 to 77 years of age, and 63% of the participants were female. Twenty-nine percent of respondents were MDs/DOs, 10% were Nurses, and the remainder represented a wide range of other medical professionals, paraprofessionals, and community health leaders. Twenty-eight percent provided primary care and 15% psychiatric care. The participants had a diverse range of years of experience in the field, with 42% reporting less than five years in practice and 27% reporting more than 20 years in practice. Hospitals and private practices comprised 70% of professional venues represented. Seventeen percent worked in academic settings and 12% worked in nonprofit and government organizations (other category). Just over half (55%) worked in urban locations. Many participants (41%) reported practicing in settings where a high percentage of patients use tobacco (more than 40%).

Outcomes

Basic Tobacco Intervention Skills Certification for Medical and Allied Health Professionals Satisfaction (Level 2)

Responses to the Participant Satisfaction Survey are based on a 5-point Likert scale with 5 indicating strong agreement and 1 indicating strong disagreement. The objectives, format, and presentation of the programs received high levels of satisfaction (mean, 4.2). Eighty-eight percent reported that the content was appropriate to their practice (n=41).

Knowledge and Skills Assessment (Level 3)

On average across groups, participants (n = 46) responded correctly to 14 of the 15 knowledge questions on the evaluation posttest. Skills were measured through an observation checklist. The Skills Demonstrations are practiced after viewing a simulated provider-patient DVD intervention and discussing material from their Guidebook. Enabling resources: Brief Intervention trifold, My Quit Plan brochure, Medication Cards and Resource Guides are used to support this learning activity.

Confidence in Implementing Tobacco Treatment Interventions (Level 3)

Exhibit 4: Basic Skills Participant Self-confidence Pretest Versus Posttest (N = 39).

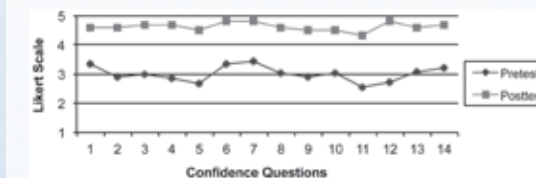


Exhibit 5: Basic Skills Participant Self Confidence Pretest and Posttest.

	Pretest	Posttest
1. I can screen for and assess tobacco use	3.4 (0.7)	4.4 (0.5)
2. I can accurately assess my clients’ motivation to quit	2.9 (0.7)	4.4 (0.5)
3. I can perform a brief intervention for tobacco cessation	3.0 (1.0)	4.7 (0.5)
4. I can explore issues related to smoking and quitting even with someone NOT INTERESTED in quitting	2.8 (1.0)	4.7 (0.6)
5. I can accurately assess the dependence level of my clients	2.7 (1.0)	4.5 (0.7)
6. I can effectively use patient education materials for tobacco cessation	3.3 (0.8)	4.8 (0.5)
7. I can provide clients with accurate information regarding the health benefits of quitting	3.4 (0.7)	4.8 (0.5)
8. I can personalize the benefits of quitting with each individual client	3.0 (0.9)	4.6 (0.5)
9. I can create office protocols to support tobacco cessation	2.9 (1.0)	4.5 (0.8)
10. I can provide clients with simple advice and instructions about nicotine replacement therapy	3.0 (0.9)	4.5 (0.8)
11. I can describe first-line pharmacotherapies for tobacco cessation	2.6 (1.1)	4.3 (0.8)
12. I can help clients develop a personalized plan for quitting	2.7 (1.0)	4.8 (0.5)
13. I can list at least two community resources to assist patients with tobacco cessation	3.1 (1.0)	4.6 (0.7)
14. I can arrange for appropriate follow-up for my clients	3.2 (1.0)	4.7 (0.7)

*1 = Definitely not confident, 5 = definitely confident.

The pre- and posttests resulted in a significant increase in self-confidence for assessing and administering brief interventions and treatment, $t(38) = -7.66, P < .0001$.

Intentions to Change (Level 4)

Exhibit 6: 4-Hour CME Program: Intentions to Change.

79%	Ask every patient about tobacco use at every visit
64%	Advise all tobacco users to quit using clear, strong, and personalized language
74%	Ask every tobacco user if he/she is willing to make a quit attempt at this time
74%	Assist the tobacco user to set a quit date
76%	Assist the tobacco user to identify reasons for quitting and benefits of quitting
74%	Assist the tobacco user to anticipate challenges, particularly during the critical first few weeks
55%	Assist the tobacco user to use FDA-approved medication
74%	Assist the tobacco user to engage in counseling support (face to face with clinician, Quit Line 800-QUIT-NOW, local program)
62%	Schedule follow-up contact (in person or phone) with patients attempting to quit, to review progress toward quitting and medication adherence
74%	If a relapse occurs, encourage repeat quit attempt

Participants were queried as to what they intend to change when treating tobacco dependence subsequent to program. Responses showed that 75% of the participants intended to integrate 7 practice changes as recommended by the U.S. Public Health Service Guideline: *Treating Tobacco Use and Dependence* (2008). More than 50% reported that they would integrate the 3 remaining practices into their organization.

Tobacco Dependence Treatment Continuing Education Program Satisfaction (Level 2)

Eighty-six percent of the participants (N=134) agreed that the educational objectives of the program were met. Eighty-seven percent agreed that the content of the program was appropriate to their practice (N=166).

Knowledge Assessment (Level 3)

Participants responded to two case study questions in a multiple choice format identifying evidence-based interventions in a specific scenario.

The correct responses were 39% in identifying which strategies are most effective to assist the patient to quit (90/228), 31% on the correct response to patient’s lack of success in quitting three months later (62/201). Seventy-three percent of the respondents responded correctly that intensive counseling and support, combined with medication add significantly to the likelihood of success in assisting patients to move toward a tobacco free lifestyle.

Intentions to Change (Level 4)

Exhibit 7: 1-Hour CME Program: Intentions to Change Practice Systems.

68%	Ask every patient about tobacco use at every visit
60%	Advise all tobacco users to quit using clear, strong, and personalized language
73%	Ask every tobacco user if he/she is willing to make a quit attempt this time
58%	Assist the tobacco user to set a quit date
62%	Assist the tobacco user to identify reasons for quitting and benefits of quitting
52%	Assist the tobacco user to anticipate challenges, particularly during the critical first few weeks
51%	Assist the tobacco user to use FDA-approved medication
58%	Assist the tobacco user to engage in counseling support (face to face with clinician, Quit Line 800-QUIT-NOW, local program)
48%	Schedule follow-up contact (in person or phone) with patients attempting to quit, to review progress toward quitting and medication adherence
66%	If a relapse occurs, encourage repeat quit attempt

When asked what they might do differently when treating tobacco dependence subsequent to the program, about two thirds of the

participants reported they intended to minimally incorporate 4 activities into their practice. About half reported they would use the additional 6 activities on a regular basis.

Changes in Practice Post Program

At follow-up, HealthCare Partnership respondents who attended the four or one-hour CME programs were asked if the program led to changes in their practice, and if so, what changes? A menu of ten areas for practice change as recommended by the U.S. Public Health Service Guideline: *Treating Tobacco Use and Dependence* (2008) were listed. Seventy-nine percent reported that they had made changes in their practices. The top four changes identified were 1) screening for tobacco use at every visit (60%), 2) assessing willingness to quit at every visit (60%), 3) assisting tobacco users to identify reasons to quit (54%) and 4) assessing level of motivation to quit (49%). Participants reported implementing an average of five activities in their practice during the 30 days after program participation, with 28% implementing eight activities. Seventy-one percent made referrals to an intensive tobacco cessation program. The average number of referrals made during that time period was six per respondent.