

VIRTUAL TEACHING & LEARNING (VTL): Adapting an effective commercial tobacco dependence treatment intervention and prevention education program for virtual platforms



“Are you able to see my screen?”

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ABSTRACT

Virtual teaching & learning (VTL) is vital in meeting the challenges and opportunities posed by the COVID-19 pandemic and the rapid development of information technology. VTL's popularity lies in the use of the Internet to deliver a broad array of learning modalities such as self-paced, instructor-led, and hybrid learning to enhance knowledge and performance. VTL can potentially reach diverse audiences and facilitate focus in busy environments.

Since 1998, the University of Arizona HealthCare Partnership (HCP), a Unit within the College of Science, Department of Psychology, has administered the Arizona Nicotine Dependence Treatment Continuing Education and Certification Programs, developed to be delivered in face-to-face modality. The Programs follow the U. S. Public Health Service Clinical Practice Guideline: Treating Tobacco Use and Dependence (2008). It uses the integrated 5A's Model and provides education and certification in areas such as commercial tobacco/electronic nicotine delivery systems (ENDS) and health, pharmacological treatments, social determinants of health, traditional tobacco use, indigenous medicine, traditional healing, and effective communication among its topics. Individuals gain knowledge, skills, techniques, and strategies to offer brief tobacco treatment interventions and services within the structure of an existing program, and to act as a resource for other health and human service providers. Over 30,000 individuals have participated in these programs.

In June 2020, the Albuquerque Area Indian Health Board, Albuquerque Area Indian Health Service, Cowlitz Indian Tribe, Portland Area Indian Health Service, and Inter-Tribal Council of Michigan worked with HCP to adapt one of its programs for virtual delivery. The team incorporated VTL in HCP's educational offerings by adapting the Basic Tobacco Intervention Skills Certification for Native Communities program ("Program"). Data from Jun. 2020 - Aug. 2022 describing over 400 participants were reviewed to assess the effectiveness of this virtual teaching & learning (VTL) educational

intervention. Evaluation measures include participant knowledge, self-efficacy, and satisfaction. Participants reported significant increases in self-confidence as well as high levels of satisfaction with the educational modality. These results were consistent with evaluation measures previously collected from the in-person programs delivered prior to June 2020. Arizona's adapted Basic Tobacco Intervention Skills Certification for Native Communities program for virtual platforms suggests virtual teaching & learning (VTL) is a promising method for broad, population-based diffusion of evidence-based commercial tobacco dependence treatment intervention and certification in Native Communities.

BACKGROUND

The end of 2019 was marked by the introduction of a third highly pathogenic coronavirus (i.e., COVID-19), after SARS-CoV (2003) and MERS-CoV (2012), in the human population, which was officially declared a global pandemic by the World Health Organization (WHO) on March 11, 2020 (Miyah, et al., 2022). The impact of COVID-19 was comprehensive and widespread, touching areas of our lives including, but not limited to, health, the environment, human psychology, the educational system, and the global economy (Miyah, et al., 2022).

During the COVID-19 period, government and tribal officials closed or limited in-person services to control the spread of the virus. Concurrently, many traditional in-person teaching venues and methods were replaced with remote online teaching platforms and techniques. Although U.S. Census Bureau estimates indicate a low rate of high-speed Internet access among Native Americans who live on tribal land (Wang, 2018), our HCP certified American Indian practitioners within the American Indian communities of the Albuquerque Area Indian Health Board, Albuquerque Area Indian Health Service, Cowlitz Indian Tribe, Portland Area Indian Health Service, and Inter-Tribal Council of Michigan faced this challenge as an opportunity to rise and deliver a solution to its community.

METHODS

PROGRAM MODEL

Since 1998, the University of Arizona HealthCare Partnership (HCP) has designed, tested, and implemented 15 evidence-based accredited continuing education and certification programs that recognize and are intended for differing contexts, intensities, and provider roles in the delivery of tobacco use disorder treatment services and addresses the potential need for referral to more intensive treatment or outside resources during follow-up.

The programs use multimodal educational methods and techniques and are based on a stepped care model to work with health providers and health influencers at all levels. This “training-of-trainer” model, which includes Certification Programs, Instructor Programs, and Health & Human Service Professional Programs, builds sustainable capacity at the local level, and fosters system-based practices (adapted from Abrams et al., 1996).

CERTIFICATION DESIGN

Nicotine Dependence Treatment Continuing Education & Certification Programs Building Capacity to Treat Nicotine Dependence as a Standard of Care		
PROGRAM	INSTRUCTOR PROGRAM	ADAPTATIONS
Basic Tobacco Intervention Skills Certification	Basic Tobacco Intervention Skills Instructor Certification	Maternal & Child Health Medical & Allied Health Native Communities Spanish-Language
Treatment Specialist Certification for Nicotine Dependence	Treatment Specialist Instructor Certification for Nicotine Dependence	Technology Enabled Learning - Teaching Venues
Instructional Specialist Certification	Faculty Instructors	Adult Learning -Teaching Methods & Tehniques
Master Facilitator Certification	Faculty Instructor Specialization	Adult Learning - Teaching Methods & Techniques

CONTENT

The Basic Tobacco Intervention Skills Certification for Native Communities program is an effective, engaging and coordinated behavioral health intervention program focusing on nicotine dependence treatment addressing decision-making skills for overcoming negative peer pressure, increasing help-seeking skills, and reducing the stigma on nicotine dependence and mental health. It is designed to equip health and human service professionals with a clinically and culturally relevant program to consistently teach an evidence-based, evaluative process for delivering a 5 A's Model low-intensity/brief intervention to American Indian people who use commercial tobacco products and for documenting the intervention.

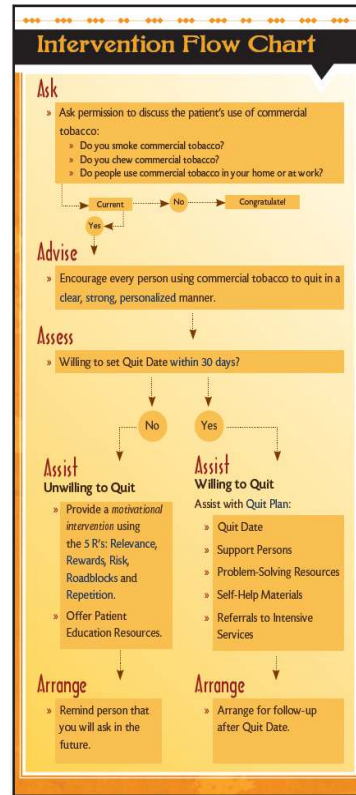
HCP Certified Instructors within American Indian communities took the initiative to coordinate themselves, analyze the curriculum, develop accompanying slide decks, and shared them with the University of Arizona HealthCare Partnership for submission to accreditation board approval. Content had a profound awareness of and connection to divineness, a resolve for overcoming struggles, and a deep-rooted love for the people, the land, and the world around them.

Program attendees received a guidebook and enabling resources. HCP Certified Instructors within American Indian communities received support with promotional flyer and agenda development (i.e., 8-hr. program delivered in 1-day, 2-day, and/or 3-day formats), remote teaching logistics and navigation, participant and instructor resources for virtually led certification programs, as well as technical assistance.

DELIVERY

HCP Certified Instructors within American Indian communities proposed adapting the Basic Tobacco Intervention Skills Certification for Native Communities program to a Virtual Teaching & Learning (VTL) modality instead of the customary in-person format. HCP agreed, and nine certified Instructors within American Indian communities took on the challenge to meet the educational needs of providers within their communities. By using the resources at hand, the in-person work they had started could keep moving forward in a virtual environment. HCP Certified Instructors delivered 46 CE/CME nicotine dependence treatment programs from June 2020 through August 2022 to health and human service providers across the country.

5A'S MODEL



They worked with the University of Arizona HealthCare Partnership to review the core elements of the Certification Program to include the 5A's Model for brief tobacco dependence interventions skills demonstrations, the Transtheoretical Model of Stages of Change, practical Motivational Interviewing strategies, and an evidence-based Quit Plan. Logistics for VTL and navigational support along with adjunct tobacco control information were outlined and implemented. Certification program participants received hard copy course materials for use during the program, staying true to the “hands on” methods and techniques of the Program. Ultimately, fifteen (15) HCP certified Instructors within American Indian communities delivered the Program to four-hundred thirty-one (431) participants, setting the stage for health and human service providers to successfully disseminate commercial tobacco dependence treatment interventions among the community members they serve.

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 Assessment, Bandura's Model of Self-Efficacy and Ajzen's Theory of Planned Behavior.

Evaluation methods include:

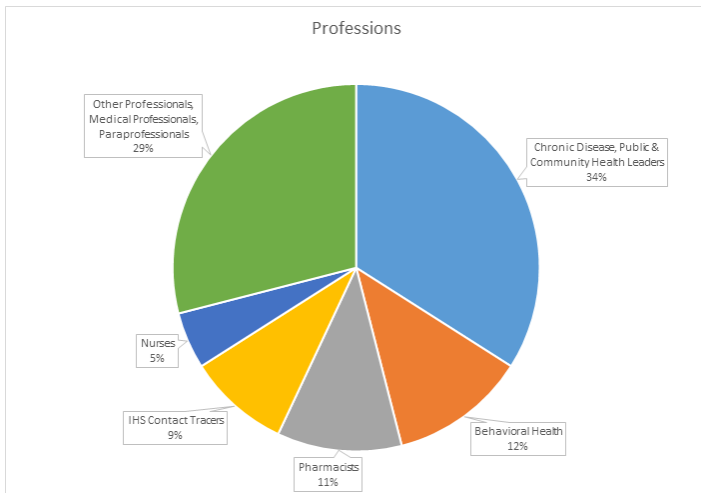
- ♦ Pretest/Posttest of Self Confidence
- ♦ Skills Demonstration
- ♦ Pretest/Posttest of Knowledge
- ♦ Survey of Satisfaction
- ♦ Pre-Survey of Current Practice/Post-Survey of Intended Practice Change
- ♦ Follow-up

Data were gathered electronically via email and fax through precertification and post-certification surveys, and by email and mail for three-month follow-up. Descriptive statistics of satisfaction measures are used for quality assurance and program improvement. Participant's mean response rate to all questions serves as the outcome variable and program location and time point (pre-, post-, three-month) serve as independent variables.

PARTICIPANT CHARACTERISTICS AND ATTENDANCE

Both quantitative and qualitative data were collected to capture Levels 1 through 4 on Moore's Model of Outcomes Assessment. A total of 431 point-of-care providers and health and human service professionals attended 46 virtual programs. Evaluation Instruments for the Basic Tobacco Intervention Skills Certification for Native Communities program were completed by participants.

Average Age	41 (Range 18-70)	N=318
Female	81%	N=312
Male	19%	N=75
American Indian / Alaska Native	62%	N=255
Multiethnic	23%	N=96
All Others	15%	N=59
Average Education Years	15.5 (Range 9-18)	N=415



PARTICIPANT CHARACTERISTICS

Participants worked with Indian Health Services patients/clients (54%), uninsured patients (22%), and Veteran's Affairs (VA) patients (10%). Participants had a diverse range of years of experience in the field, with 74% reporting less than or equal to five years, and 8% reporting 20 or more years in practice.

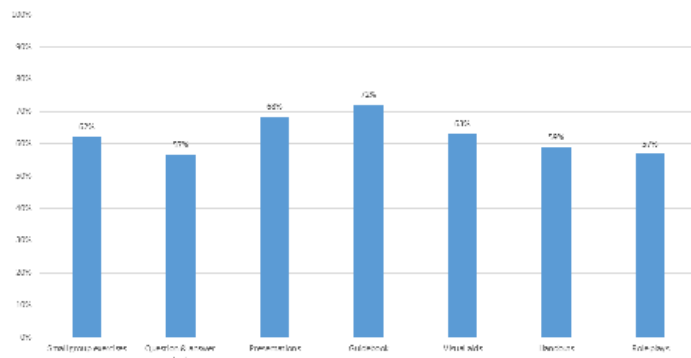
Participants worked in about 50% percent of the states across the United States, representing states in all twelve Indian Health Service Areas. One-hundred eighty-six (186) Tribal-affiliated employers were represented by participants.

OUTCOMES

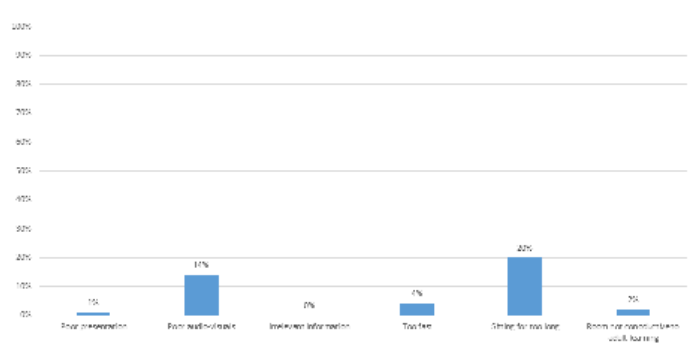
PROGRAM SATISFACTION

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 program objectives, format, and presentation received high levels of satisfaction (mean, 4.6). Ninety-four (94%) percent reported that content was appropriate (n=431).

MOST EFFECTIVE ASPECTS OF THE PROGRAM



FACTORS HINDERING LEARNING

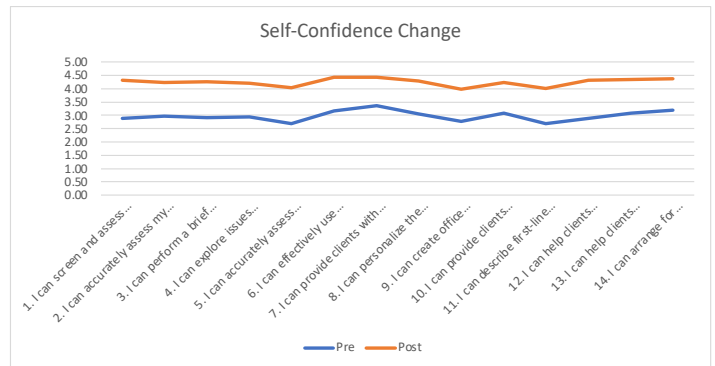


KNOWLEDGE AND SKILLS ASSESSMENT

On average across groups, participants (n = 431) responded correctly to 14 of the 15 knowledge questions on the evaluation posttest. Skills Demonstrations, measured through an observation checklist, are practiced after viewing a video simulated provider-patient intervention and discussing material from their Guidebook. Enabling resources: Native American Health Brief Intervention trifold, Stay Healthy – Life Matters Quit Plan brochure, Strength to Quit pocket guide, Medication Foldout and Resource Guides are used to support the learning activity.

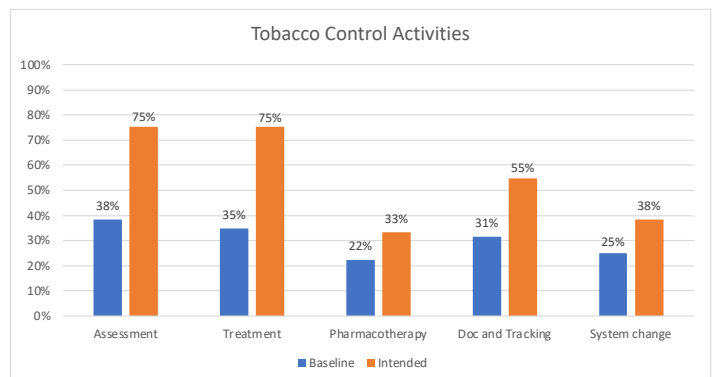
PARTICIPANT SELF-CONFIDENCE

The pretests (M=2.98; SD=0.99) and posttests (M=4.25; SD=0.48) resulted in a significant increase in self-confidence for assessing and administering brief interventions and treatment.



INDICATORS OF SYSTEMS CHANGE IN ACTION

The impact that the nicotine dependence treatment Certification program has on systems change compares the number of activities currently employed in the participant's workplace (reported prior to program participation) to the number of activities the participant intends to implement subsequent to program participation. The five areas of evaluation: Assessment, Treatment, Pharmacotherapy, Documentation and Tracking, and Systems Support, are integral to health and human service providers working within American Indian communities.



CONCLUSION

Certified American Indian Instructors within Native communities provided education to a cadre of health and human service personnel to improve and expand the treatment of nicotine addiction within health care settings by increasing the number of trained and certified individuals who may conduct a 5 A's Model brief intervention with a person who uses commercial tobacco/nicotine products.

Arizona's adapted Basic Tobacco Intervention Skills Certification for Native Communities program for virtual platforms suggests virtual teaching & learning (VTL) is a promising method for broad, population-based diffusion of evidence-based commercial tobacco dependence treatment intervention and certification in Native communities.

Several conclusions can be drawn from this Virtual Teaching & Learning approach, program, and evaluation:

- ◇ Participant objectives were met with regard to content and virtual delivery.
- ◇ Programs impacted participant knowledge of interventions and treatments regarding the prevention and treatment of tobacco use.
- ◇ Participants' use of the Program Guidebook in combination with the Instructor-led virtual delivery and the practice of new skills in virtual breakout rooms, increased levels of intent to systematically incorporate new interventions and treatments into their practice.
- ◇ Positive post-program confidence gains in the VTL modality format were similar to those experienced in HCP's in-person delivery.

This approach has benefits that stimulate student learning during this critical time (Miyah, et al., 2022).

- ◇ Remote educational venues allowed us to continue serving our Native communities.
- ◇ VTL programs may be flexible and suitable for participants with physical disabilities as they only require reduced mobility.
- ◇ VTL has the potential to maximize participants' engagement and self-exploratory learning.

However, distance education instruction is not without its drawbacks (Miyah, et al., 2022):

- ◇ Challenges such as dropped internet connections, extremely remote participants needing to drive to internet-ready "hot spots," and access to uninterrupted online connections were cited.
- ◇ Technology challenges experienced by some of the participants on computers and mobile phones limited participation during discussion periods.
- ◇ Equipment may be outdated or may not have the necessary accessories and/or features to fully engage and participate in remote, virtual interactions.
- ◇ Poor Internet connectivity may hamper communication between Instructors and participants.

VIRTUAL CONSIDERATIONS

Virtual considerations include fully developing the Virtual Teaching & Learning (VTL) components of the program, improving the connection speed and the audiovisual quality of the platforms used, regularly updating slide decks with current statistics/data, making program video recordings available for online on-demand access, prerecording segments of the program for use during program delivery or later, educating participants about the use of functions on technological devices, and exploring stronger access and wider services.

Potential use of computer labs in remote areas would provide access to updated electronic and technical equipment and resources. Further outreach to the Tribes represented in each of the twelve Indian Health Services Areas could broaden the impact. Implement a thorough, timely follow-up component to determine if confidence gains are maintained, intended systems changes are implemented, and referral to intensive services are increased after a virtual program delivery.

SUMMARY

In summary, the University of Arizona HealthCare Partnership's Nicotine Dependence Treatment Continuing Education program adapted to a virtual teaching & learning (VTL) modality and taught by certified American Indian Instructors was impactful and well-received. A total of 431 point-of-care providers and health and human service professionals were added to the index of tobacco control health influencers. These providers exemplify the commitment to interact with patients to assist them in abstaining from long term commercial tobacco/nicotine product use.

The impact of this CE/CME program delivery modality translates to positive outcomes for people who use commercial tobacco/nicotine products and their families, as these providers gain experience in implementing the interventions and treatments discussed.

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