

Clinician Training on Tobacco Dependence for Respiratory Therapists
Grant ID 16948967

Abstract (250 word max)

OVERALL GOAL: The overall goal of this project is to increase the proficiency of respiratory therapists in the 5A's (and AAR) model and in pharmacotherapy recommendations by utilizing modules specifically designed for the target population. **TARGET POPULATION:** The target population includes currently practicing respiratory therapists. This population will have contact with patients who are current tobacco users and can benefit from the cessation conversation conducted by the respiratory therapist and subsequent referral to the formalized tobacco cessation program. **PROJECT:** The training will provide the RT with guidance for delivery of personalized, tailored tobacco cessation interventions, which may be offered in a variety of environments. This training will build upon existing resources to improve the knowledge, behaviors and self-efficacy for providing brief interventions. The program addresses the need for tailored, interactive, behaviorally focused video examples to demonstrate appropriate interactions with the tobacco user. **EVALUATION:** Determination of the impact on the practice gap will be evaluated with pre and post intervention evaluation measures to determine perceived level of knowledge as well as self-reported behaviors and self-efficacy in providing counseling. Pre- and post-course content assessments will be administered to assess potential improvement in foundation knowledge as well as pre- and post-assessments addressing perceived level of knowledge, effectiveness and preparedness regarding performing tobacco cessation interventions. Follow-up interviews will conclude the data collection to measure self-reported counseling behaviors and self-efficacy for tobacco dependence counseling and to assess the impact of the training on practice.

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Main Section of the proposal (not to exceed 15 pages):

Overall Goal & Objectives

The overall goal of this project is to increase the proficiency of respiratory therapists (RTs) for the 5 A's (and AAR) model and in pharmacotherapy recommendations by utilizing the Rx for Change materials and supplemental specialized RT modules created with grant funding. Utilization of an on-line training platform will promote access to the training by all practicing RTs. Grant funding for development of the structure, activities, outcomes and dissemination of the program will allow the American Association for Respiratory Care (AARC) to expedite the availability to RTs.

RTs have a plethora of opportunities to assist in preventative efforts and engage tobacco users regarding tobacco dependence. While ample intervention opportunities exist, there are no national training programs specifically designed for RTs to properly prepare for this significant interaction. The AARC's vision for this proposed training program is to provide a comprehensive, online tobacco dependence clinician training for RTs to assist tobacco dependent individuals. The primary goal of the training is to reduce the number of tobacco users nationwide using evidence-based educational and interactive approaches. This can be accomplished by increasing the number of RTs prepared to help tobacco users quit. The purpose of this training will be to enhance RT knowledge, attitudes and self-efficacy for providing tobacco dependence counseling.

The key objectives for the training are:

- 1) Improve self-reported knowledge and self-efficacy for providing brief tobacco cessation interventions.
 - Few studies have examined the RT's knowledge and self-efficacy for providing tobacco dependence counseling. There is a gap in the literature, which can be attributed to the lack of formalized education in this area for currently practicing RTs. Therefore, there is a need to illustrate the effectiveness of training in improving knowledge and self-efficacy for providing brief interventions. This project will allow the researchers to create a training module to address these gaps and contribute pilot data for a larger study in this area.
- 2) Improve self-reported counseling and referral behaviors as part of a brief tobacco cessation intervention.
 - The USDHHS CPG recommends systematic and multidisciplinary cessation programs. The RTs completing this training now and in the future will be better prepared and more likely to contribute to tobacco cessation counseling and referral, connecting tobacco users to national quitlines or other appropriate community resources.

Technical Approach:

Current Assessment of need in target area

A limited number of RTs have training in tobacco dependence treatment. The practice gap addressed relates to the cadre of RTs available, yet ill equipped, to recommend pharmacotherapy and provide assistance to current tobacco users. Approximately 14% of RTs are trained for these conversations.² Formal RT education devotes an average of 165 minutes of instruction for tobacco-related content.³ With approximately 8,000 new RT graduates per year,⁴ the lack of instruction results in fewer RTs prepared to initiate the 5A's conversation. In

addition, only 83 of over 50,000 AARC members have self-reported they have completed training and have earned the Certified Tobacco Treatment Specialist (CTTS) credential. The 2014 AARC Human Resources Survey indicates that the median amount of time of respiratory therapy experience after completing training is 15 years,⁵ which indicates that much of the workforce was trained before tobacco dependency was included in respiratory therapy curriculum.

The AARC published the “Clinician’s Guide to Treating Tobacco Dependence” in August 2014 to address the identified practice gap. This comprehensive guide provides vital evidence-based information including physiologic effect of nicotine, nicotine addiction, types of nicotine, types of nicotine replacement therapy, quit strategies, and systems issues.⁶ The guide is available as a free download or in conjunction with a continuing education course. During the timeframe of August 1, 2014, to January 9, 2015, 1,655 respiratory therapists completed the continuing education course. The course evaluations identified that 99.5% of participants identified this as an effective learning activity. The researchers analyzed 156 free-text comments in the post-course evaluation for common themes. The two major themes related to high quality of the course (37%) and relevancy of course material to employment position (15%). Of the comments regarding new knowledge gained (9%), many commented that there was information included in the guide that was new to them. All of the comments addressing a desire to gain further information (4%) and most of the comments addressing course media (6%) recommended expanded courses with accompanying video to further educate and prepare the respiratory therapist for the necessary conversations.

This project is designed for respiratory therapists who have successfully completed entry-level respiratory therapy education and earned either the Certified Respiratory Therapist or Registered Respiratory Therapist credential. The target demographic, through these two milestones, qualifies for state licensure to practice as a respiratory care practitioner. As licensed respiratory care practitioners, this population will have contact with patients who are current tobacco users and can benefit from the cessation conversation conducted by the respiratory therapist and subsequent referral to the formalized tobacco cessation program.

This project is complementary to the Purdue University proposal. The Purdue University research group is proposing interventions targeting the respiratory therapy educator, which will in turn improve formal smoking cessation education in respiratory care entry-to-practice programs, improving the skill level of the graduate respiratory therapist. Through the synergistic efforts of the two proposals, the entire respiratory therapy population will be targeted to improve knowledge, behaviors, and self-efficacy in initiating and conducting the smoking cessation conversation, referring patients to formal quit programs, and improving smoking cessation rates across the United States.

Project Design and Methods:

The training will provide the RT with guidance for delivery of personalized, tailored tobacco cessation interventions, which may be offered in a variety of environments. Training materials will provide resources that can be used to tailor smoking cessation programs and activities for each environment as well as for audiences with various levels of health literacy. This training will build upon existing resources, including the AARC Clinician’s Guide to Treating Tobacco Dependence, and the Rx For Change program to increase the knowledge, behaviors

and self-efficacy for providing brief interventions. The program addresses the need for tailored, interactive, behaviorally focused video examples to demonstrate appropriate interactions with the tobacco user.

Additional case scenario vignettes will be developed to supplement the Rx For Change program. The proposed training vignettes will provide the learner with the opportunity to view, assess and evaluate the content which models appropriate behavior in a variety of care settings relevant to the RT. Currently, the program includes one RT-specific interaction. The researchers will develop scenarios for the environments common to and uniquely relevant to RT like initiating the 5A's conversation during the delivery of breathing treatments for pulmonary disease, or after extubation for cardiopulmonary related surgery. Trigger tape reaction videos will be developed in order to use the Rx for Change Trigger tape videos for our proposed online platform. The learner will watch selected trigger tapes and then critically evaluate and select an appropriate reaction statement. The learner will then be directed to watch a scripted reaction to the trigger statement. These reactions will be scripted and relevant to common respiratory therapy services which are necessitated by continued tobacco use and resultant pulmonary disease.

Considerations for specific populations including pregnant women, teens and adolescents, parents, and patients with cardiac disease will be included, and practical information related to reimbursement and implementation of smoking cessation services will also be addressed. This online, on-demand training will be available to all RTs and will be sustainable for several years after development to maximize the impact of training.

The project will include the AARC Clinician's Guide to Treating Tobacco Dependence as required reading, two one-hour video lectures, four vignettes, four trigger tapes, in-course self-assessment quizzes, and one post-course knowledge test. With an expected completion time of 5 hours, this course will be approved for 5.0 continuing respiratory care education (CRCE) credits by the AARC. It will be distributed as a complete package. Successful completion is defined as completion of all course artifacts and at least a 70% passing score on the post-course knowledge test.

The program proposed for consideration is a pilot that will provide the researchers with an opportunity to evaluate and refine the content for wider distribution. The target participation goal for the final product is 300 respiratory therapists within the first 2-year cycle of course availability. As hospitals strive meeting The Joint Commission's Tobacco Treatment Core Measures, the AARC will provide bulk package opportunities for respiratory therapy department managers to provide to their staff RTs.

Evaluation Design

Determination of the impact on the practice gap will be evaluated with pre and post intervention evaluation measures to determine perceived level of knowledge as well as self-reported behaviors and self-efficacy in providing counseling. The pre and post training evaluation measures are derived from several similar interventions described in the literature.^{7,8} Participants will be asked to rate their perceived level of knowledge, effectiveness and preparedness regarding performing tobacco cessation interventions. They will also be asked to self-report their ability to counsel patients using the 5As and to indicate the frequency

with which they perform the 5As. Self-efficacy of the participants will be measured with a series of situation-specific items.

In addition to the above, participants will be asked to indicate the amount of the training that was new to them, that was not new, but needed to be reviewed, and that was not new and did not need to be reviewed in the post-training evaluation. A course evaluation will also be utilized to determine areas for improvement and modification for future training.

The pre-intervention evaluation will be delivered within the course through the learning management system (AARC University) prior to the participant engaging in content. After completing the pre-intervention evaluation, the participant will progress in a predetermined fashion through the educational course. Each portion of the course will allow for self-assessment to provide regular feedback to the participant on progress in achieving learning objectives. Beginning with the AARC Clinician Guide to Treating Tobacco Dependence as required reading, the course will progress through video instruction addressing initiating and progressing through the cessation conversation and specific pharmacologic nicotine replacement options. Several vignettes, using both RX for Change case scenarios and trigger tapes and original content directed toward RTs, will be integrated, encouraging critical thinking through difficult situations and introspection into the situation to uncover potential biases that could sabotage the conversation. These exercises will help prepare the participant for unique situations directly applicable to the RT and improve self-efficacy in initiating the cessation conversation.

After the participant has completed the course, the same pre and post intervention evaluation measures will be administered in an effort to assess the impact of the training. One to two months following course completion, all 60 participants will be interviewed to measure self-reported counseling behaviors and self-efficacy for tobacco dependence counseling and to assess the impact of the training on practice. All three researchers have experience with interviewing techniques and gathering, interpreting, and triangulating qualitative data.

The research team will enter all data, into a shared database for ease of access. Data analysis of the differences between the pre- and post-intervention evaluations will be completed with t-tests and ANOVA as appropriate.

A 20% increase in the self-reported tobacco cessation counseling behavior of arranging follow-up for patients interested in quitting is anticipated as a result of the training. In addition, a perceived improvement in self-efficacy related to initiating the intervention is expected. The convenience of online training in the AARC's successful online learning management system, AARC University, coupled with the extensive accessibility to both AARC members and non-member RTs, will ensure the training will be easily accessible for refreshing knowledge after the course is complete as well.

Delivering the course through the AARC University learning management system allows the researchers to track the time each participant spends in the course, how many times each course artifact is accessed, and the responses provided to all types of quiz and test questions throughout the course. The researchers have the ability to set forced completion and learner pathways to direct the learning in a logical and step-wise fashion. After the project is completed, the researchers can determine level of participation based on these reports. The learner will also have direct contact with an AARC staff member for real-time assistance when completing the course to overcome any logistical outcomes.

Upon completion of data analysis, the researchers will develop a manuscript with the data analysis, results, interpretation, and impact on clinical practice for submission to a peer-reviewed medical journal. In addition, the researchers will submit data for presentation at an international respiratory care conference.

Detailed Workplan and Deliverables Schedule:

The course development phase will begin with content and scenario development. Content experts will be recruited to deliver two instructional sessions: a session discussing initiating and progressing through the cessation conversation and specific pharmacologic nicotine replacement therapy options. Dr. Sergakis and Dr. Varekojis will construct the respiratory therapist-specific scenario scripts to compliment, but not duplicate, the RX for Change case scenarios and trigger tapes. Obtaining IRB approval and registering with clinicaltrials.gov will occur during this time.

During this time, the research team will contact interested parties for beta testing. Ideally, this includes recruiting twenty (20) day shift respiratory therapists at three different hospital sites in three different geographical locations where a high prevalence of tobacco use has been identified.⁹ Hospital sites selected to participate will be matched according to reported employee demographics (similar years of experience in RT), department size, and serving similar patient populations. Each site will be assigned a researcher as a site liaison for follow-up and to encourage program completion.

After the construction of the content and scenario videos, external review of the content will be solicited and edits to the content will occur as necessary. The researchers will schedule time at the production studio for the content experts to record the sessions and engage actors for the scenarios, which will be recorded in situ (vignettes). The initial recordings, edits, and final products will be complete by June 30, 2015. During this time, the AARC staff will be constructing the course in AARC University and the website for the course. The researchers and AARC staff will also use this time to market the course to the beta sites as well as prepare marketing materials for the final course offering to the respiratory therapist population at large.

Once confirmed, informed consent will be obtained from the study participants and they will be sent detailed instructions on how to navigate the AARC University course as well as the timeframe of expected completion. The study site liaison will work with the site participants, maintaining contact and encouraging completion of the course. The raw data will reside in the AARC University platform until all participants are complete and reports can be compiled.

Upon completion of the course by all study participants, the researchers will compile the data collected in AARC University and begin data analysis. Each participant will be contacted one month after the completion date for the follow up telephone interview. The data obtained in each telephone interview will be compiled and shared in a secure database with the other researchers. Triangulation of qualitative data will be necessary to reduce bias as much as possible and provide a more clear understanding of the lived experiences of the participants.

After data analysis, the researchers will author a manuscript for submission to a peer-reviewed journal and prepare for a poster presentation at an international conference.

Schedule of Deliverables	Begin	End
Expert Driven Structure		
<ul style="list-style-type: none"> • Content and scenario development 	4/15/15	5/1/15
Manageable Process Activities		
<ul style="list-style-type: none"> • Participant recruitment 	4/15/15	5/1/15
<ul style="list-style-type: none"> • Video production of case based demonstrations (AMS) 	5/1/15	6/30/15
<ul style="list-style-type: none"> • Course development and webpage design (AARC) 	6/1/15	6/30/15
<ul style="list-style-type: none"> • Participants initiate and complete pre-intervention knowledge test, online course, and post-intervention knowledge test 	7/1/15	7/31/15
Outcomes Measurement		
<ul style="list-style-type: none"> • Program pre-intervention survey administered 	7/1/15	7/31/15
<ul style="list-style-type: none"> • Program post-intervention survey administered 	8/1/15	8/31/15
<ul style="list-style-type: none"> • Follow-up interviews with participants 	10/1/15	10/31/15
<ul style="list-style-type: none"> • Interviews transcribed by contracted service 	10/1/15	11/15/15
<ul style="list-style-type: none"> • Data evaluation 	11/1/15	11/30/15
<ul style="list-style-type: none"> • Data analysis 	12/1/15	12/31/15
Outcomes Dissemination		
<ul style="list-style-type: none"> • Prepare manuscript for publication 	12/1/15	3/1/16
<ul style="list-style-type: none"> • Data dissemination at AARC Congress 2016 	11/10/16	11/10/16

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