APPENDICES

Appendix 1. AAC Process Description

AAC Rationale

Ask-Advise-Connect (AAC) is an approach to smoking cessation delivery in a primary care setting that has a great potential to reduce morbidity and mortality associated with tobacco use. Specifically, AAC is designed to serve as a process for routinely asking about smoking status, providing brief quit recommendations, and assessing the patients' willingness to quit. Among those expressing interest in taking action to quit, an offer to connect to cessation services is made, and acceptance (or decline) is recorded. Prior research has documented that an Ask-Advise-Connect approach increases the proportion of tobacco users who receive treatment from a Quit Line (QL, an evidence-based and cost-effective smoking cessation assistance service) by 13- to 30-fold, compared to the recommended standard of care.

AAC Process

At non-urgent primary care medical visits, when a patient's vital signs and screening questions occur, AAC engages the medical assistant (MA) or nurse to ask about smoking status and provide brief advice to quit in a manner consistent with the Clinical Practice Guidelines for Treating Tobacco Use and Dependence. Level of readiness is assessed, and for patients who express interest in taking action to quit, a referral to smoking cessation assistance is offered. A direct connection to the QL is made by clicking an EHR link that securely sends the patient's name and phone number; the QL staff then contact the patient within 24 hours. Patients contacted by the QL are invited to enroll for up to 5 telephone counseling sessions to prepare for a cessation attempt. Counseling is designed to develop problem solving and coping skills, secure social support, and plan for long term abstinence. Nicotine replacement therapy, if indicated, is offered, and with approval from the referring clinician, the NRT is mailed to the patient.

AAC intervention

The AAC intervention designed for this study consisted of 3 components: 1) establishing eReferral capacity to the Ohio Quitline, 2) revising EHR to facilitate discussion of tobacco use,

readiness to quit, and willingness to receive Quitline counseling, and 3) updating clinic staff roles and process through training and support in using the revised EHR.

eReferral capacity to exchange data between clinic and QL providers was established in the initial project phase.

Revising EHR: This work was done over the course of a year with substantial engagement from stakeholders to address the proposed fields for the project, existing fields and anticipated changes, new fields, location and nature of the buttons, wording of guiding information and the development of supporting / training documents reflective of the final EHR changes. The changes involved multiple iterations of development and testing before the pilot evaluation in the two clinical sites. Additional fields for smoking cessation readiness assessment were added to the EHR.

Role and process changes for medical assistants and nurses. Next, the clinical support stuff received training to expand their role to ask patients at each visit about smoking status, provide brief advice to quit, assess readiness, and (for patients interested in quitting) make an eReferral to smoking cessation counselors. Individuals who assess vital signs prior to the patient being seen by the clinicians were the focus of this intervention. Prior to the intervention, the MAs/nurses role involved asking about smoking status and documenting smoking history for those that smoke. The new role involved 4 steps: The first was asking the patient about their smoking status. The second step was, for smokers, providing brief advice using a phrase that was collaboratively written with the study team and medical assistant/nurse representatives. The phrase was: 'As a member of your health care team, I strongly recommend that you quit using tobacco'. The third step was to ask about the patient's level of readiness to quit in the next 30 days, and for those that indicated that they were interested in quitting now, the medical assistant/nurse offered to connect the patient to a coach or counselor that could assist them with quitting. If the patient indicated readiness to quit smoking now, the medical assistant placed an order that triggered a referral to either the quitline or to the Freedom from Smoking Program offered by the health system. At the time of this study, eligibility for free quitline services included being aged 18 or older with Medicaid insurance or no insurance, or a pregnant woman.

The features of the services provided by the Quitline for Ohio and for the Freedom from Smoking program offered at Metrohealth are detailed in the chart below.

Features of Quitline and Freedom from Smoking programs

	Ohio Quitline	MetroHealth Freedom from Smoking
Program Entry		
Methods of entry	eReferral Self enroll Website	eReferral Self enroll
Eligibility		
Insurance	Medicaid Uninsured	No restrictions
Diagnoses	Pregnant	No inclusion criteria
Call attempt protocol		
Contact timeline	First call attempt made within 24 hours	First call attempt within 5 days
Contact attempts	2 more call attempts made after 3 and 7 days	2-3 more call attempts within two weeks
Intake protocol		
Process	Asked intake questions (tobacco history, etc.) Offer to enroll in texting option Offer to enroll in web based program	Asked about preferred location
Counseling Program Plan		
Type Counseling	Motivational Interviewing	Motivational interviewing/Behavior change
Setting	Individual, over the phone	Group setting, in person
Frequency	Once a week (about 30 minutes)	Once a week, 90 minutes
Materials	Welcome packet (email or mail)	Workbook
Program completion	5 completed counseling calls	

		Must attend at least 6 out of 8 class sessions to be considered complete. (8 sessions over 7 weeks)
Nicotine Replacement Therapy (NRT)		
NRT type offered	Patch, gum, lozenge	Patch, gum, lozenge
When it is offered	Sent NTR sent after enrolling during first call	At session 4 (goal is to be smoke free by session 4, CO test session 5,6,7)
Quantity	Up to 8 weeks worth, 2 weeks at a time	Up to 4 boxes, 2 weeks at a time
Other programs offered		
Text	Text program: 2-3 motivational texts per day	
Web	Web-based program: tools and support in a personalized profile	
Follow-up		
After completion	Text program lasts 12 months after program completion	Participant is called 30 days, 90 days, 6 months and 1 year after program completion

AAC implementation

The AAC training used the model developed by Dr. Vidrine, who worked with the study team to adapt the training materials to align with the proposed changes to processes and systems. The ACC was implemented through training and feedback.

Training materials also included a 'Tip sheet' that was designed using the standard format for informing staff about EHR change or change in process that required documentation in the EHR. Approximately two weeks after the implementation, a research associate stopped by the practice to talk with individuals to learn how the process was going and to gather feedback about the EHR changes, the changes in role, and information about patient engagement.

Formal feedback provided by the study team consisted of a 1-page document showing clinic rates on each of the process variables for the month prior and for each of 3 months post AAC implementation. Information was shared in both tabular and graphic formats. Informal feedback from the clinic members was solicited to better inform the implementation process and to guide the refinement of documents, EHR functions and guidance, and additional training or informational needs. Field jottings were gathered and reported back to the larger study team. The team continued to provide feedback reports to the practice manager up to 6 months post implementation.

Launch Presentation: The AAC intervention launch sessions were comprised of three parts; a presentation, interactive training session, and introduction of a new Tip sheet. To make it convenient for the practices, each AAC intervention was scheduled during one of the practice's regular meetings times. Each launch began with a presentation that introduced clinical staff to the goals and rational of this systems change. The 20-minute presentation outlined the goal of the initiative, changes to the EHR interface and workflow and demonstrated how the MAs were to complete the new sections with a detailed description with screen shots of the new features in the EHR and the eReferral capacity, a description of the new role / steps for accomplishing the Ask-Advise-Connect strategy, and a period for questions.

New role for MAs/Nurses: This new AAC process also expanded the role of the clinical support staff. With this new system's change the MAs and Nurses were able to sign the order in the EHR, completing the eReferral process without depending on a physician. The original tobacco navigator section of the EMR required MAs to only ask about patient's tobacco use. The new AAC additions to the EMR furthered the role of the MAs by setting up a process allowing the MA to advise patients to quit using a "quit statement," assess patient readiness to quit in the next 30 days, and offer a connection to quit counselors via eReferral through the EMR.

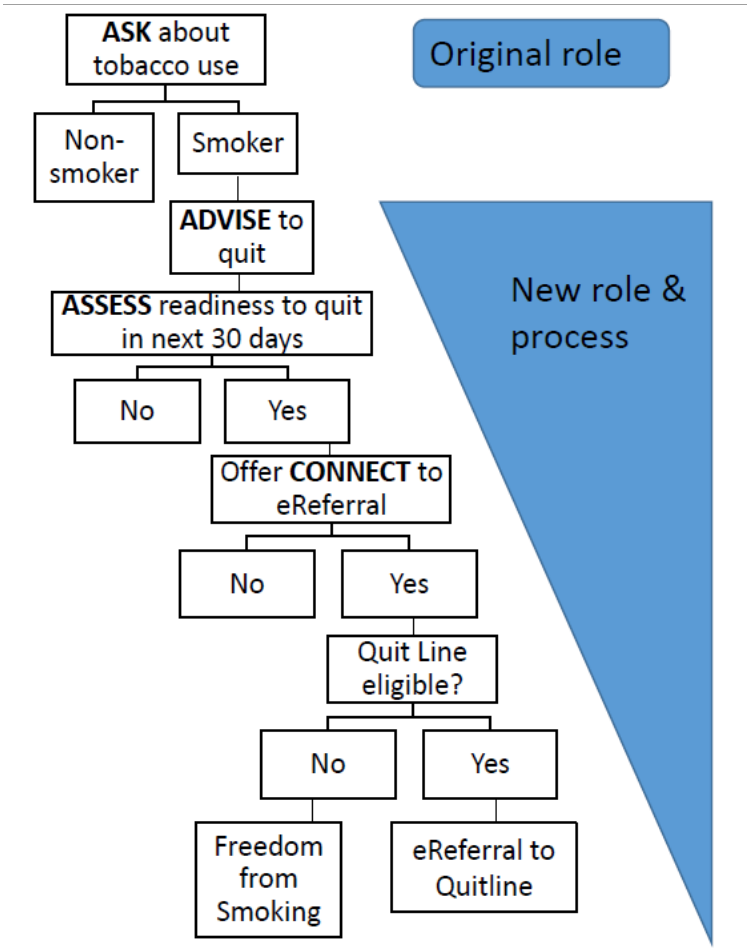
Following the presentation was a hands-on training session where the medical staff tried out the new sections and features of the EHR at computer workstations. Workstations were logged into the EHR test environment and staff worked with 6 patient scenarios designed to expose learners to different features. Each MA was given the opportunity to click through the intervention process with a virtual test patient in the EHR test environment. Patient cases included different levels of readiness to quit smoking and willingness to be connected to quitline counseling services. This was an opportunity for the medical assistants/nurses to see the exact EHR changes, what happened when different entries were clicked, how the order for the referral to the quitline appeared, and how to sign the order. This process generated questions, suggestions from the medical staff, and the opportunity for the study team to refine the instructions for the process and the process itself. After the launch session, the changes to the EHR were officially turned on at the Health Center and available for use immediately.

Strategy for implementation, Development of Tip Sheet: After the presentation MAs were provided with a Tip sheet, modeled after other EHR training documents, which showed step-by-step screen shots of the new sections in the EHR and how to properly complete each step. In this health system, it is a standard practice to distribute "Tip sheets" to clinical staff when changes are made in the EHR that will impact usability. The Tip sheet is a step-by-step guide that illustrates the exact changes to the flow and appearance of the EHR interface. To keep consistent with hospital practices, the study team developed a Tip sheet for the new tobacco navigator with the assistance of the EHR (Epic) Navigators, the team who typically designs Tip sheets for the hospital. The final draft of the Tip sheet was pilot tested for usability and evaluated by clinical staff before being used in the intervention.

Pilot: Before launching the AAC in the 8 community health centers, a pilot test was conducted at two additional practices within the same health system.

Follow-up sessions: Informal feedback for the AAC was assessed about 3 weeks after the initial launch. A member of the study team visited each practice to follow-up individually with MAs to collect feedback about the helpfulness, practicality, and ease of use of the new tobacco navigator. This time was also used to address questions and any user errors effecting the performance of the tobacco navigator.

Booster Sessions: Formal booster sessions took place at each community health center about 3 months after the initial launch. Each booster visit was scheduled for the first 5 minutes of a regularly scheduled staff meeting at the convenience of the practices. Study staff provided each practice with a feedback report with their clinic's data compared side by side to the other clinics in the intervention. Feedback was provided for areas that needed improvement, reminders were given, and new MAs who were not present at the initial launch training were invited to go through the EMR changes with a member of the study team to ensure understanding. This was also a convenient time to talk again one on one with MAs to address any questions or suggestions they may have had and to understand their feelings towards this system's change. MAs were also given new Tip sheets that illustrated any changes made to the tobacco navigator since the launch and new flyers with helpful reminders were posted around the clinic area.


ASK about tobacco use
Original role
Non-smoker
Smoker
ADVISE to quit
New role & process
ASSESS readiness to quit in next 30 days
No
Yes
Offer CONNECT to eReferral
No
Yes
Quit Line eligible?
No
Yes
Freedom from Smoking
eReferral to Quitline