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Enrollments in a Tobacco Dependence Treatment Program during the Covid-19 Pandemic: A Case Study

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ABSTRACT

During the pandemic, Covid-19 mortality rates were higher in those who smoke. Smokers reported relapse to tobacco use during the pandemic and /or an increase in the numbers of cigarettes smoked. Individuals reported working from home with more opportunity to smoke without restrictions, increased stress, anxiety, boredom, and isolation as their reasons for relapse or increased cigarette consumption. A health system tobacco cessation program was offered remotely with individual telephone or telehealth sessions and weekly virtual support groups. There was a significant increase in program enrollments and quit rates during the pandemic compared to the previous year. As individuals return to in-person work, tobacco control measures, such as tobacco-free indoor and outdoor environments as well as tobacco cessation programs will be important factors in reducing smoking and encouraging cessation.

Key Words: Tobacco Dependence Treatment, Ambulatory Electronic Health Records, Patient Testimonials, Telephone/Telehealth Counseling

INTRODUCTION/BACKGROUND

Tobacco use remains the leading cause of preventable death, disease, and disability in the United States. The U.S. Public Health Service guidelines recommend use of the 5A's for Treating Tobacco Use and Dependence: 1) Asking all patients about tobacco use; 2) Assessing smokers' willingness to quit; 3) Advising smokers to quit; 4) Assisting smokers to quit by prescribing cessation medications; and 5) Arranging follow up and referring patients for additional support. Tobacco users are more likely to make a quit attempt with the advice and support of their health care provider. [1]

During the Covid-19 pandemic mortality rates were higher in those who smoke. Smokers' lungs have greater levels of ACE2, a protein receptor present in cell membranes. Covid attaches to the

ACE2 and the subject is more vulnerable to severe disease. Among individuals who quit smoking ACE2 expression was reversed. [2]

A report from NCI indicated that monthly calls to the state quitlines decreased during the first four quarters of the pandemic when compared to the previous year. During the same period cigarette sales increased. During the pandemic without smoke-free restrictions at home many smokers increased their tobacco use. [3,4] Individuals reported working from home, with more opportunity to smoke, as one reason for increased use, as well as increased stress, anxiety, boredom, and isolation. Attempts to quit smoking decreased during the Covid-19 pandemic. [5] A qualitative study of quit experiences among primary care patients reported mixed reactions to the Covid-19 pandemic. Participants who were aware of the risks of continued smoking and Covid-19 outcomes had increased motivation to quit and quit intentions. Older participants reported difficulties coping with isolation, stress, and boredom. Stress increased for many but those who quit found new ways to cope with stress. The findings from this study emphasized the importance of raising awareness about the risks associated with simultaneously smoking and having Covid-19 infection to increase quit attempts. [6]

Motivation to quit smoking may be strengthened by the feeling of fear that overwhelmed the population during the Covid-19 pandemic. Providing smokers with information about the risks of smoking and the risks of Covid-19 may increase quit rates. [7] A quantitative research study examined the perceived impact of Covid-19 among treatment seeking smokers. Those who reported it was easier to quit with the stay home order attributed it to knowledge of the severity of Covid-19 on smokers. Those who reported difficulty in quitting attributed it to increased stress and the inability to access activities, places, or people that could help them manage their triggers. [8]

The theoretical framework of the Tobacco Dependence Treatment Program is based on Pender's Health Promotion Model. Education regarding risks of smoking and Covid-19 may promote improved health care outcomes.

METHOD

The Center for Tobacco Control (CTC) program is a community-based tobacco cessation program. Prior to the Covid-19 pandemic the program consisted of five one-hour weekly group meetings. The classes were held in person and facilitated by nurse practitioners and registered nurses, who were also Certified Tobacco Treatment Specialists.

The first phase of the program concentrated on preparing to quit with a focus on nicotine, addiction education, and motivation to quit, as well as information about the FDA-approved cessation medications. The chemicals in tobacco products, health effects of tobacco use, myths about quitting, preparation to quit, and change in tobacco use behaviors are also discussed.

The second phase of the program focused on setting a quit date, deciding on medication use, and considering potential barriers to success, such as nicotine withdrawal. For those with prescription coverage, some cessation medications were prescribed. For participants without coverage, the cessation medications were provided free-of-charge through the program.

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The third phase included relapse prevention strategies, suggestions on ways to remain tobacco-free, and a guide to help participants wean from the nicotine replacement products. Upon conclusion of the five-week program, participants were invited to join a weekly support group. The support group was facilitated by one of the staff members. All participants were awarded Certificates of Achievement, a quitter t-shirt, and a stress ball to celebrate their participation in the program.

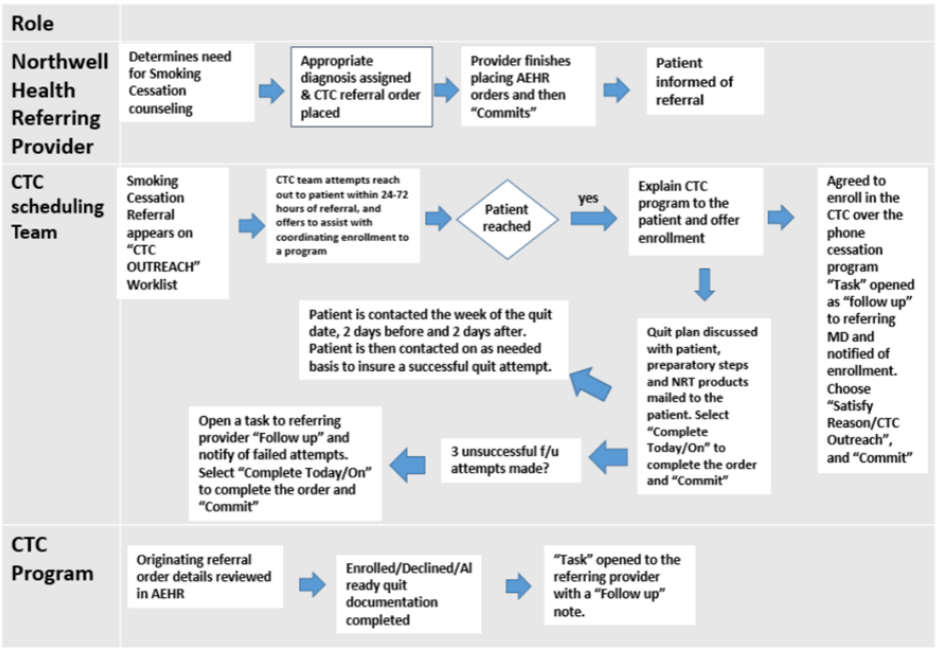
At the start of the pandemic (March, 2020), the tobacco cessation team began offering remote coaching and counseling via individual telephone or telehealth sessions and weekly virtual support groups. Referrals to the program came from physician practices through the Ambulatory Electric Health Record (AEHR) system or by self-referral. The referral is known as the "Smoking/Tobacco Cessation Program" referral and can be activated by physicians, nurse practitioners, and physician assistants from the over 800 ambulatory practices in the Northwell Health system.

Each day a worklist of referred patients is generated from the physician practices. The tobacco cessation team review the worklist daily and outreach by phone to each patient within 24-72 hours. Each referred patient is offered cessation resources. All telephone contacts also receive a welcome letter from the team and information about the cessation services. The provider originating the referral receives a follow-up message (via the AEHR) documenting the outcome of the telephone contact.

The AEHR ensures that tobacco use is assessed and treated systematically at every clinical encounter. The AEHR reminds clinicians to document smoking status, deliver brief advice, as well as prompt them to prescribe cessation medications and facilitate referrals for additional counseling.
Exhibit 1 describes the telephone counseling workflow.

Exhibit 1

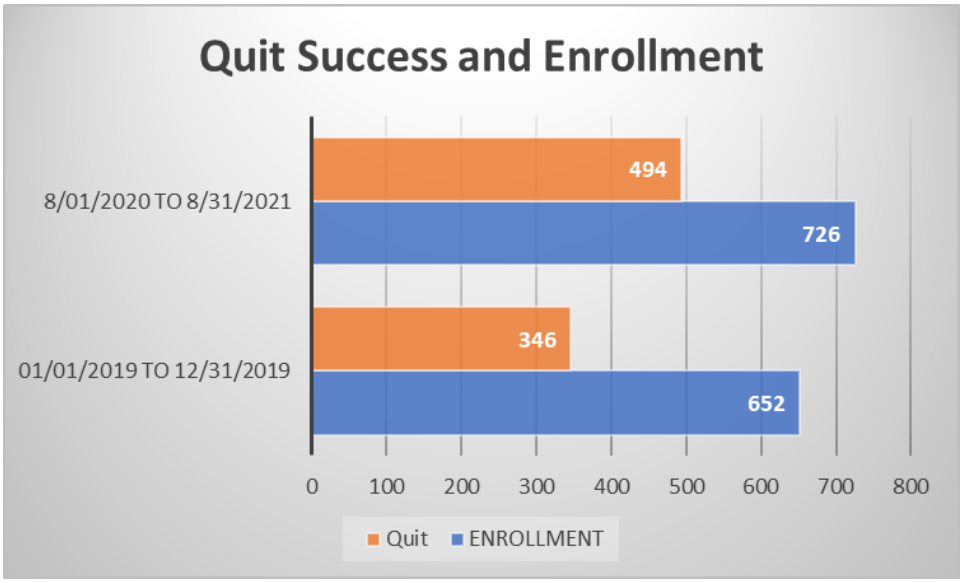
Center for Tobacco Control Referral Management –AEHR Over the Phone Counseling Workflow



OUTCOME/RESULTS

The Chi Square Test of Association was used to evaluate the variables of enrollment and quit success. There was a significant increase in program enrollments and quit rates during the pandemic compared to the year prior to the pandemic. Statistical significance was achieved for both variables. Enrollment 726 vs 652, p=0.00. Quit success 494 (68%) vs 346 (53%) p=0.00. Exhibit 2 describes the Quit Success and Enrollment. In addition to these data, 831 new participants enrolled in the program from 9/1/21 through 7/31/22. Their quit rates will be determined next year.

Exhibit 2



IMPLICATIONS FOR PRACTICE

The majority of individuals enrolled in the program cited concerns about contracting COVID-19 while smoking and indicated that it was the main reason for their quit attempt. Health care providers who are aware of the dangers associated with smoking and COVID-19 infection, as well as the potential risk of relapse during the pandemic may have been more likely to ask about tobacco use, offer brief counseling, and refer for additional support. The pandemic may have increased the motivation to quit among many tobacco users. Although the quitlines experienced a decrease in calls from tobacco users during the pandemic, our program with assistance from referring practitioners, was able to enroll a substantial number of patients for tobacco dependence treatment.

As the severity of the pandemic lessens, continued monitoring of participant enrollment in the remote cessation treatment model will provide data about its sustainability. In addition, as individuals return to work, continuing tobacco control measures, such as tobacco-free indoor and outdoor environments is important in reducing smoking and encouraging cessation.

CONCLUSION

The Covid-19 pandemic challenged the team at the Center for Tobacco Control to pivot to a new method of providing tobacco dependence treatment to the communities it serves. The outcomes reported improved rates of enrollment and quit success. The services provided

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improved the patient experience and health care outcomes. Those who participated in tobacco dependence treatment during the COVID-19 pandemic expressed messages that help them remain abstinent.

Exhibit 3 highlights the testimonials of the patient experience.

Exhibit 3 Patient Testimonials

"I have several health conditions that put me at risk for getting sick if I get COVID-19. The one thing I can do to help myself is quit smoking." (Male, age 58)
"During the pandemic, I have suffered personal loss and increased stress. I know smoking will only make things worse. The smoking cessation support group is helping me avoid relapse and remain healthy." (Female, age 50)
"The Northwell Smoking Cessation program has been instrumental in helping me quit, and they are always so supportive (even when I had a slip up!) The staff is very kind and patient, and always willing to talk. Since I have quit, I have noticed that I have much more energy and patience, and my sense of smell/taste has improved greatly." (Male, age 33)
"With the threat of Covid-19 and the way it attacks the lungs, I am forever grateful for quitting with the Center for Tobacco Control." (Female, age 63)
"Since working remotely, I started smoking 2 packs per day instead of 1 pack per day. I need to quit smoking all together!" (Male, age 32)
"I am so grateful that I was able to quit smoking with the help and support of the Center for Tobacco Control staff. In addition, they explained the importance of participating in lung cancer screening. I followed their advice and am so thankful I did. My lung cancer was diagnosed at an early stage. I had surgery to remove part of my lung, but I do not need chemotherapy or radiation therapy. I am doing well, and my doctors are pleased with my progress. I am too! Thank you!" (Female, age 73)

RECOMMENDATIONS AND FUTURE RESEARCH

Future research may include identifying and educating about other risks to continued smoking that may be used to motivate patients to engage in tobacco cessation efforts and attempt to quit. In addition, as we emerge from the pandemic, collecting data on participant enrollment in tobacco cessation programs as well as their reasons for quitting and relapsing may assist healthcare providers in developing more targeted interventions for those who use tobacco.

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