Comparing the effectiveness of virtual and in-person group cessation courses

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Methods

Program Description: Courses were provided by trained facilitators, primarily Tobacco Treatment Specialists (TTS), through four lead AHECs associated with Florida medical schools and their 10 subcontracting AHECs that covered all counties in the state. Group behavioral counseling was provided through two course curricula: 1) one to two sessions and 2) five to six sessions. The courses included education on nicotine addiction, medications, cravings, and triggers, planning a quit, relapse prevention education, and elements of motivational interviewing. The program also provided free nicotine replacement therapy (NRT) to eligible participants (2-4 weeks). AHECs primarily conducted virtual courses using the video conferencing software Zoom, but other platforms were also used.

Procedure: Participants were asked to complete a registration form prior to the start of the course to capture the demographic and tobacco use characteristics. Program use data was collected via attendance forms completed by the participant and NRT provision forms completed by the facilitator. Quit outcomes and satisfaction variables were captured from follow-up surveys administered approximately seven months after enrollment via phone or web. Response rates were 39.0% for the in-person cohort and 53.9% for the 2020 virtual cohort. A stratified sampling approach was used based on four geographic areas and course type. Propensity score matching was used to control for differences in the two study cohorts before comparing outcomes (Oakes & Johnson, 2017). A multivariable logistic regression model including the covariates shown in Table 1 estimated a propensity score for each participant being in the virtual group vs. in-person group). For each virtual participant, we matched to one in-person participant using the estimated propensity score. Matching was done using a nearest neighbor method with a caliper width of .05 (Oakes & Johnson, 2017). Because the sampling design stratified participants by program (single-session vs. multi-session) and lead AHEC office, we forced exact matching on those fields (SAS Institute Inc., 2016). There was a range of propensity score values for which there were more virtual than in-person participants, therefore matching with replacement was employed (Stuart, 2010). Matching was done using the PSMATCH procedure in SAS (SAS Institute Inc., 2016). Differences in 30-day point prevalence and program satisfaction were assessed using chi-square tests. All analyses were conducted in SAS V9.4 (SAS Institute, Inc., 2016).

Measures

Demographics and tobacco use: The following were collected: sex, date of birth, race, ethnicity, education, insurance, children living in household, number of behavioral health conditions, sexual orientation, gender identity (transgender), primary language, geographic location, time to first cigarette, motivation to quit, and readiness to quit.

Program use: The following were assessed: number of courses during sampling period, which AHEC provided the course, amount of NRT provided by program, and course curriculum.

Quit Outcomes: Quit rate: Participants were asked if they had smoked any cigarettes or used other tobacco, even a puff or pinch, in the last 30 days. This excluded e-cigarettes or other vaping devices.

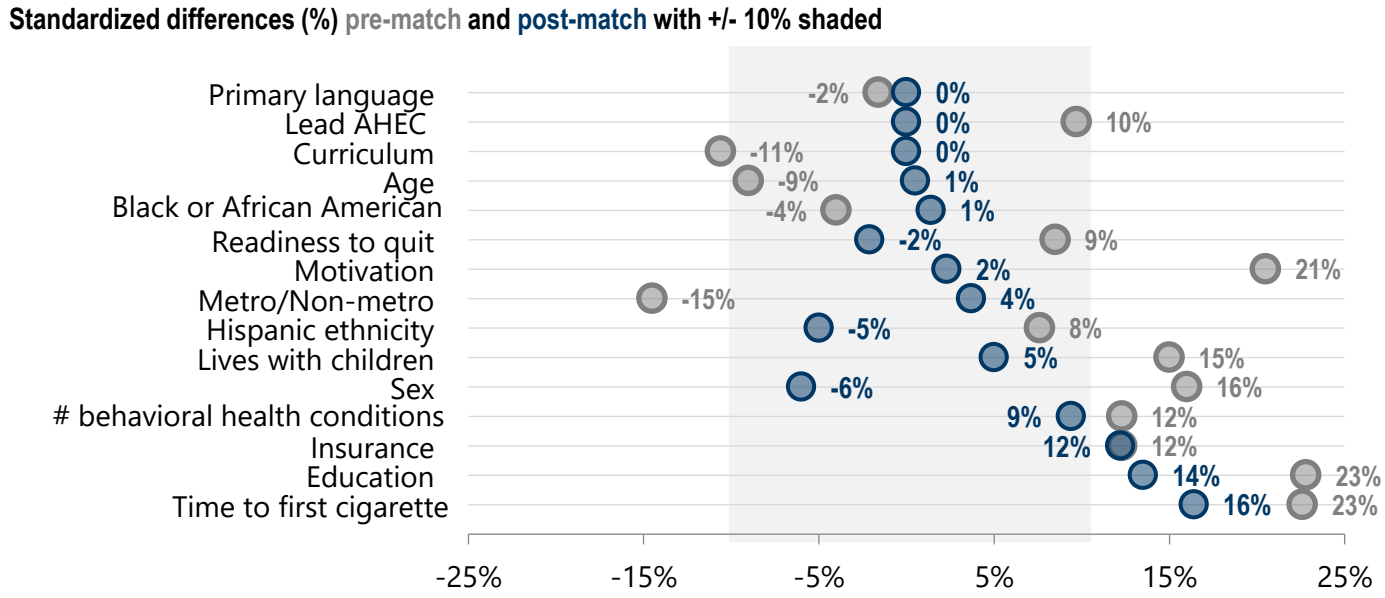
Satisfaction: Participants were asked how satisfied they were with the service they received. Participants selected from very, mostly, somewhat, or not at all satisfied.

Participants

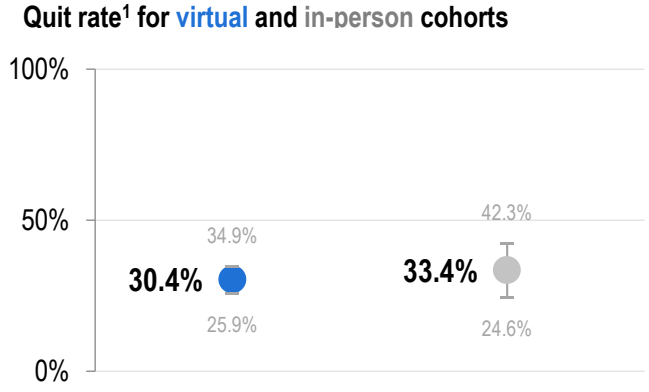
	Virtual	In-person
Dates	June 1- Sept. 15, 2020	June 1 – Sept. 15, 2019
Number of participants	431	365
Outcome survey response rates	53.9%	39.0%
Number of participants in outcome analysis	401	178

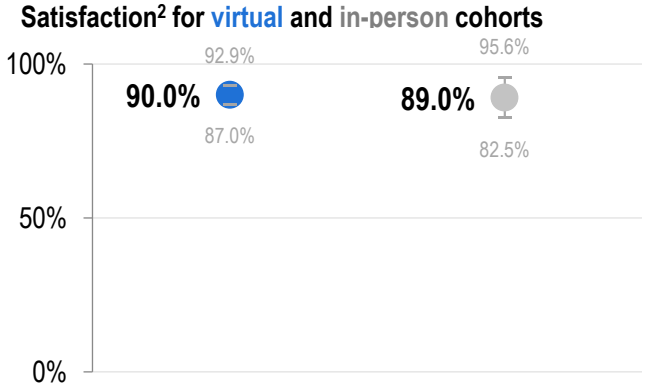
Results

The propensity score analysis reduced differences between the two cohorts



No significant differences found in 30-day point prevalence abstinence rates or very/mostly satisfied participants between cohorts





[1]Using propensity score matching, the 30-day point prevalence abstinence rate for the virtual cohort was 30.4% with a 95% confidence interval [CI]: 25.9%, 34.9% and the in-person cohort was 33.4% with a CI: 24.6%, 42.3% (X^2(df=1, N=802)=.36, p=0.55).
[2]Using propensity score matching, The proportion of participants who felt "very" or "mostly" satisfied with the program was 90.0% with a CI: 87.0%, 92.9% for the virtual cohort and 89.0% with a CI: 82.5%, 95.6%; for the in-person cohort (X2(df=1, N=802)=.07, p=0.79).