



VA/DOD CLINICAL PRACTICE GUIDELINE FOR TOBACCO USE TREATMENT

Department of Veterans Affairs

Department of Defense

QUALIFYING STATEMENTS

The Department of Veterans Affairs (VA) and the Department of Defense (DOD) guidelines are based on the best information available at the time of publication. The guidelines are designed to provide information and assist decision making. They are not intended to define a standard of care and should not be construed as such, nor should the guidelines be interpreted as prescribing an exclusive course of management.

This clinical practice guideline (CPG) is based on a systematic review of both clinical and epidemiological evidence. Developed by a panel of multidisciplinary experts, it provides a clear explanation of the logical relationships between various care options and health outcomes while rating both the quality of the evidence and the strength of the recommendation.

Variations in practice will inevitably and appropriately occur when providers consider the needs of individual patients, available resources, and limitations unique to an institution or type of practice. Therefore, every health care professional using these guidelines is responsible for evaluating the appropriateness of applying them in each unique clinical situation using a patient-centered approach.

These guidelines are not intended to represent VA or DOD policies. Further, inclusion of recommendations for specific testing, therapeutic interventions, or both, within these guidelines does not guarantee coverage of civilian sector care.

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Table of Contents

I. Introduction 5

III. Scope of This Guideline 17

 A. Guideline Audience 17

 B. Guideline Population 17

IV. Highlighted Features of This Guideline 17

 A. Components of This Guideline 17

 B. Demographic Terminology in This Guideline 19

V. Guideline Development Team 19

VI. Summary of Guideline Development Methodology 22

 A. Evidence Quality and Recommendation Strength 22

 B. Categorization of Clinical Practice Guideline Recommendations 23

 C. Management of Potential or Actual Conflicts of Interest 24

 D. Patient Perspective 25

 E. External Peer Review 25

 F. Implementation 25

VII. Approach to Care in the Department of Veterans Affairs and the Department of Defense 26

 A. Patient-Centered Care 26

 B. Shared Decision-Making 26

 C. Patients with Co-occurring Conditions 26

VIII. Algorithm 27

 Module A. Initial Treatment 28

 Module B. Treatment Follow-up and Ongoing Care 29

IX. Recommendations 35

 A. Treatment Engagement 39

 B. Pharmacotherapy Interventions 40

 C. Alternate Tobacco Products 48

 D. Behavioral Counseling Interventions 50

 E. Return to Use 56

 F. Not Ready to Quit Population 58

 G. Treatment Recommendations for Selected Subpopulations 61

 H. Complementary and Integrative Health Interventions 70

 I. Neurostimulation Interventions 72

 J. Interventions Implemented at System-level 73

X. Research Priorities	78
A. Patterns of Use	78
B. Populations of Interest.....	78
C. Pharmacotherapy Interventions.....	78
D. Non-Pharmacotherapy Interventions.....	79
E. Treatment Implementation and Engagement	79
Appendix A: Guideline Development Methodology.....	81
A. Developing Key Questions to Guide the Systematic Evidence Review.....	81
B. Conducting the Systematic Review	87
C. Developing Evidence-Based Recommendations	93
Appendix B: Evidence Table.....	97
Appendix C: Participant List.....	101
Appendix D: Patient Focus Group Methods and Findings	103
A. Methods.....	103
B. Patient Focus Group Findings.....	103
Appendix E. Literature Review Search Terms and Strategy.....	105
A. Resources Searched.....	105
B. Search Strategies	105
Appendix F. Alt Text Descriptions of Algorithms	114
A. Module A: Initial Treatment	114
B. Module B: Follow-up Treatment and Ongoing Care.....	114
Appendix G. Additional Information on Tobacco Use Treatment and Screening.....	116
A. Assessment of Current Tobacco Use	116
B. Interventions For Adults Ready to Set a Quit Date in the Next 30 Days.....	117
C. Interventions For Adults Who are Not Ready to Quit	118
D. Interventions For Pregnant Adults	118
E. Referral Resources.....	118
Appendix H. Pharmacotherapy	119
Appendix I. Psychosocial Interventions.....	129
Appendix J. Abbreviation List	130
References	132

I. Introduction

The Department of Veterans Affairs (VA) and Department of Defense (DOD) Evidence-Based Practice Work Group (EBPWG) was established and first chartered in 2004, with a mission to advise the "...Health Executive Council (HEC) on the use of clinical and epidemiological evidence to improve the health of the population across the Veterans Health Administration (VHA) and Military Health System (MHS)," by facilitating the development of clinical practice guidelines (CPGs) for the VA and DOD populations.(1) The development and updating of VA/DOD CPGs is funded by VA Evidence Based Practice, Office of Quality and Patient Safety. The system-wide goal of evidence-based CPGs is to improve patient health and well-being.

The VA/DOD EBPWG initiated the creation of the VA/DOD Tobacco Cessation CPG in 2024. This CPG provides an evidence-based framework for evaluating and managing adult patients, 18 years or older, who are eligible for care in the VA and/or DOD healthcare systems and may benefit from tobacco cessation. Successful implementation of this CPG will:

- Emphasize the use of patient-centered care using risk factors and event history;
- Minimize preventable complications and morbidity;
- Optimize each patient's health outcomes and improve quality of life; and
- Assess the patient's condition and in collaboration with the patient, family, and caregivers, determine optimal treatment.

II. Background

A. Description

Tobacco use consistently ranks as the top preventable cause of death in the United States (U.S.) and mortality worldwide.(2) The short-term effects of combustible tobacco use include increased amounts of carbon monoxide in the blood, leading to diminished oxygen metabolism, as well as increases in blood pressure and heart rate.(3) Long-term effects of tobacco use include numerous types of cancer, cardiovascular diseases, and lung diseases, as well as negative effects on all major organ systems. Tobacco use is associated with a tremendous economic burden to the U.S., with \$240 billion in tobacco-related healthcare spending (4,5); \$185 billion in lost productivity from smoking-related health conditions (4); and \$180 billion in lost productivity from smoking-related premature death.(4) Additionally, tobacco use can negatively impact surgery outcomes and recovery, further increasing mortality risks.(6) In the military population in particular, tobacco use is a readiness issue, making cessation a mission essential goal. Most individuals who use tobacco desire to quit (6), making evidence-based treatment options vital.(7) Reducing tobacco use confers little health benefit compared to quitting altogether, therefore, total abstinence is the ultimate goal of treatment. However, cessation is a process that includes multiple phases and typically requires repeated efforts. As such, intermediate goals, including reduced use and making quit attempts, are part of the path to abstinence and may be useful for moving persons who use tobacco toward abstinence.(8) Overall, this guideline puts forth evidence for why tobacco cessation is vital and explores the best practices to achieve this goal.

Overall Prevalence in the United States

Over the past 60 years, the use of tobacco products has been decreasing in the U.S. Data from 2022 revealed that 19.8% of the U.S. population continues to use tobacco products.⁽⁹⁾ The most commonly used tobacco products are combustible cigarettes, with 11.6% of the population reporting use.⁽⁹⁾ Data from the National Health Interview Survey from 2017 – 2023 showed a further decline in exclusive cigarette smoking, with a reduction to 7.9%. This reduction in cigarette smoking was offset by an increase in the use of electronic nicotine delivery systems (ENDS, e.g., e-cigarettes, vaping) from 1.2% in 2017 to 4.1% in 2023.⁽¹⁰⁾ The use of ENDS is more common among younger populations (ages 18 – 44).⁽¹⁰⁾ The development of new products, including ENDS and nicotine pouches have led to dual or polyproduct usage with 3.8% of adults using multiple nicotine products.^(9,11,12) The use of other tobacco products, including ENDS, is increasing, with 6% of the U.S. population using ENDS in 2022.^(9,13) Data reported for the U.S. population in 2022 also showed cigar use in 3.7%, smokeless tobacco use in 2.1%, and pipe smoking in 0.9%. Cigarette smoking remains more prevalent among men at 13.2% compared to 10% of women. Despite declines in cigarette smoking in the general U.S. population, certain groups continue to have a higher prevalence of smoking. This includes people with disabilities, anxiety disorder, and depression. Smoking continues to be the leading cause of preventable illness, disability, and mortality in the U.S., with one in every five deaths attributable to tobacco use.⁽¹⁴⁾

Tobacco products, in particular combustible products such as cigarettes, are the source of many significant negative health consequences enumerated above. Recent years have seen the introduction of new commercial tobacco and nicotine products. Emerging evidence suggests that ENDS use has measurable adverse effects on cardiovascular, pulmonary, and systemic health, with potential carcinogenic risk from chronic exposure.⁽¹⁵⁻¹⁹⁾ Less is known regarding the health consequences of nicotine, the psychoactive substance underlying dependence on tobacco and other commercial nicotine products. However, nicotine dependence leads to multiple harms, including loss of behavioral control, neuroadaptive changes in brain reward circuits, and increased rates of anxiety and depression.^(20,21) As such, both tobacco and nicotine products are important targets for cessation.

B. Risk Factors Contributing to Tobacco Use

Tobacco use arises from a wide array of interacting factors that make it a complex and challenging behavior to address. Furthermore, the introduction of new products, such as ENDS and oral nicotine pouches, has led to an increase of dual product and polyproduct use.⁽¹¹⁾

Multiple factors, such as genetic, neuropharmacological, psychological, environmental, and comorbid addictions, influence the decision to start and continue using tobacco and nicotine products.⁽²²⁾ Understanding factors contributing to tobacco and nicotine use can support the development of more effective prevention and treatment options.

Nicotine addiction has a substantial heritable component.⁽²³⁾ Genetic predisposition and neuroadaptation play key roles in the development of dependence. Genetic factors affect both

nicotine metabolism and the function of nicotinic receptors. Variations in receptor-encoding genes can alter receptor availability and responsiveness, influencing vulnerability to dependence.(24)

Just as genetic predisposition can contribute to addiction susceptibility, environmental factors play a significant role in shaping nicotine use patterns. Peer influence in young adults and adolescents, settings such as the military in which tobacco use is normalized, and parental influence contribute to tobacco use behaviors. Children of parents or guardians who smoke are at a higher risk of adopting the habit.(25) Certain job environments also influence smoking behavior.

Conversely, exposure to strong anti-tobacco media campaigns has been linked to a reduced risk of initiating nicotine use.(26) The DOD and VA maintain comprehensive strategies to combat nicotine use that combine policy restrictions, clinical guidelines, and targeted cessation resources.

Despite these coordinated initiatives, tobacco use among Service members and Veterans remains a persistent challenge. This persistence is partly driven by occupational and cultural influences within the military. Cultural norms, deployment stress, and easy access to nicotine products continue to reinforce their use. Emerging products, such as oral nicotine pouches, are gaining popularity, particularly because they are discreet and easy to use in settings where smoking is prohibited, circumventing smoke-free restrictions and policies.(27)

Beyond environmental influences, nicotine use commonly co-occurs with other substance use disorders and mental health conditions such as anxiety, depression, and chronic pain syndrome, as smoking is associated with worsened mental health and an increased risk of suicide.(28) These comorbidities are particularly concerning in military and Veteran populations, where exposure to combat, operational stress, and high-risk environments often contributes to high smoking, depression, and post-traumatic stress disorder (PTSD) rates.(29) Nicotine and other addictive substances share overlapping risk factors that reinforce both initiation and dependence, further complicating cessation efforts.

C. Tobacco in the Department of Veterans Affairs and Department of Defense Populations

Tobacco use among Veterans and active-duty military has historically been higher than in civilian populations. The tobacco industry has targeted military Service members for decades.(30) The U.S. military includes a disproportionate number of persons at high risk for nicotine addiction prior to joining the military (e.g., male sex, young age, lack of higher education, and exposure to family members who smoke).(11,31) While recent data suggest that smoking rates across both active-duty Service members and Veterans have decreased in the past decade, the use of ENDS products has increased.(32-35,36,37-39)

Tobacco use and the diseases caused by tobacco use are major drivers of health care costs and negatively impact military readiness. A retrospective study released in 2024 (33) utilized Defense Health Agency data from 1.8 million MHS patients, which includes active-duty military, military dependents, and retirees, to assess rates of tobacco use, which included cigarettes, cigars, smokeless tobacco, and ENDS. Overall, 22.6% of the population used tobacco in 2022, with the highest prevalence of use among the active-duty population (28.26%).(33)

DOD Population

The Health-Related Behaviors Survey (HRBS) and the Periodic Health Assessment (PHA) are two important surveys that collect questions about the health, health behaviors, and well-being of Service members. The HRBS is a large population health survey, which assesses the health and health-related behaviors of Service members that have a potential impact on readiness. Unlike the PHA, which evaluates *all* military personnel, the HRBS only surveys a sample of Service members.(32)

The most recent data available, comparing all service components, shows that the largest user of cigarettes in 2018 was the Marine Corps at 27.7% as compared to the lowest user, the U.S. Air Force at 11.9%.(36) Among the service branches, the Marine Corps and Navy had the highest prevalence of any current tobacco use (49% and 40.6%, respectively), and the Air Force had the lowest (31.2%). Of note, reported use included use of at least one tobacco product in the last 30 days. When reporting tobacco use, Service members often report a combination of two or more types of products. It was also reported that the Marine Corps maintained the highest level of ENDS use at 22.6% with the Army having the lowest percentage at 13.9%.

According to the 2022 *Health of the Force Report* (reporting on the U.S. Army Active Component (AC) Soldier population), 27% of soldiers reported using any type of tobacco product in 2021: 13% reported smoking, 9.8% reported smokeless tobacco use, and 12% reported ENDS use.(40)

According to the 2023 *Health of the Force Report*, about 1 out of 5 AC Service members reported using any tobacco product, with a greater percentage of male AC Service members (25%) reporting tobacco use relative to female AC Service members (13%). The adjusted prevalence for tobacco product use was higher among the Army (26%) and Marine Corps (26%), and lowest among the Air Force (17%).(41)

Of the AC Service members who reported tobacco use, the greatest percentage reported the use of ENDS (n=112,087; 13%), followed by those who reported smoking (n=75,886; 8.6%) and smokeless tobacco use (chewing or dipping) (n=57,402; 6.5%).(41)

While military personnel are at high risk for tobacco use, the most vulnerable time for personnel to reinstate or initiate tobacco use is during occupational training, immediately following basic military training.(42) Recent surveys suggest that this younger military cohort may have high rates of novel nicotine product use, including ENDS and oral nicotine pouches. Mancuso et al.(2024) found that 27.9% of 17–24-year-olds reported ENDS use, which is higher than the 15.3% rate of use among the U.S. population.(32)

An annual survey of soldiers stationed at Fort Bragg in 2022 and 2023 found that 23.8% of survey participants reported past 30-day oral nicotine pouch use.(27) Users of nicotine pouches were mostly younger, white, unmarried males. Moreover, initiation of cigarette smoking and use of nicotine products have been shown to increase among military recruits, during deployments, and following exposure to combat.(34,43) Up to 38% of new recruits start smoking after joining the armed services, and deployment has been shown to increase the risk of starting smoking by 60%.(34)

Notably, observed prevalence rates of tobacco use are impacted by methodological differences in both the study setting (e.g., clinic-based assessment versus anonymous surveys) and the way tobacco and nicotine use, or current smoking, are defined. For example, active-duty Service members consistently report a much lower prevalence of all types of tobacco and nicotine use on the PHA (where results are often reviewed face-to-face by a healthcare provider) compared to results obtained from the HRBS (a confidential cross-sectional survey most recently conducted in 2018 by the RAND Corporation).⁽³²⁾ Although self-identification as a person who smokes is a strong indicator of smoking behavior, many individuals who smoke nondaily do not identify as such, thus underestimate the risk for tobacco-related disease.⁽⁴⁴⁾ Smoking rates are higher based on behaviorally anchored questions that do not rely on self-identification as an individual who smokes (e.g., have you smoked all or part of a cigarette in the past 30-days), such as those utilized in the HRBS, compared to the PHA. The 2018 PHA indicated that 25.3% of Service members reported using any tobacco products. In contrast, the 2018 DOD HRBS indicated that 37.8% reported use of any tobacco product.⁽³²⁾

According to the 2018 DOD HRBS active-duty report on racial and ethnic differences, non-Hispanic White had the highest current tobacco or nicotine use (41.2%), compared to Hispanic (34.8%), non-Hispanic Asian (33.5%), and non-Hispanic Black (29.4%).⁽³²⁾ The 2022 *Health of Force Report*, which assesses past-month tobacco use, provides information on racial and ethnic differences in reported use of tobacco products, including cigarettes, smokeless tobacco, and ENDS.⁽⁴⁰⁾ Overall, tobacco use was lowest among Hispanic (12% female, 23% male) and Black (14% female, 24% male) soldiers and most common among Native Hawaiian or Pacific Islander (21% female, 40% male) soldiers. Lesbian, gay, and bisexual Service members in the 2016 Millennium Cohort Study were more likely to report smoking than heterosexual Service members.⁽⁴⁵⁾

There are few studies or surveys assessing the delivery of tobacco use treatment to the military population. MHS data indicates that tobacco cessation counseling substantially declined by 17.4% (28.4 to 11%) overall from July 2016 to March 2022. Declines were seen over this time period in active-duty as well as retiree and military dependent populations, as well as among all service branches.⁽³³⁾ The authors did not assess tobacco cessation medication use and noted that counseling may be under-reported due to lack of reimbursement and issues with inaccurate clinical coding.

Veteran Population

The National Survey on Drug Use and Health (NSDUH) reports prevalence and trends among the total population of Veterans in the U.S. The 2023 NSDUH reported past-month tobacco product use by 25.1% of Veterans aged 18 and older, and past-month ENDS use by 6.3% of Veterans.⁽³⁹⁾ Of the Veterans who used tobacco or ENDS, 77.4% of Veterans used tobacco-containing products only, 10.1% used ENDS only, and 12.6% used both types of products in the past month. Younger Veterans, aged 18 to 49, had the highest rates of ENDS use, with 18.1% of the population reporting past-month ENDS use, compared to 2.8% of Veterans aged 50 or more.⁽³⁹⁾ To date, surveys have not assessed the prevalence of use of newer nicotine-containing products (such as oral nicotine pouches) among the Veteran population.

The 2023 US National Health Interview Survey data reported that the smoking prevalence among Veterans (not limited to VHA enrollees) was 13.2% compared to 10.6% among non-Veterans.(46) In a population-based analysis comparing Hispanic Veterans to Hispanic non-Veterans, Hispanic Veterans reported higher smoking levels, had a lower likelihood of attempts to quit smoking, and had less confidence in their ability to quit smoking despite similar interest in quitting.(47)

Historically, in contrast to the general population, smoking rates have also been higher among women Veterans than men Veterans when compared to the general population. From 2010-2015, 29% of women and 21% of men Veterans reported current smoking.(48) More recent data from the 2024 survey of VHA enrollees reported similar smoking prevalence rates among women (10.9%) and men (11%) enrollees. However, women Veterans may experience unique barriers to quitting, including co-morbid mental health conditions, differences in social support, and lack of access to resources.(49) Smoking rates are also higher among lesbian, gay, and bisexual Veterans than among heterosexual Veterans.(50)

There is substantial interest in quitting among Veterans. However, the majority of Veterans who smoke still do not receive comprehensive, state-of-the-science treatment for tobacco use that includes combination pharmacotherapy and behavioral treatment. Within the VA, a recent report on health equity found that no significant differences were observed for the extent of screening for tobacco use or offers to assist cessation by racial/ethnic group.(51) However, a study from 2005 reported that Black and Hispanic Veterans reported lower use of nicotine replacement therapy (NRT) and lower participation in group smoking cessation programs than non-Hispanic White Veterans.(52) Prior research has suggested that the lower utilization of evidence-based cessation treatments, whether due to access or culturally influenced choice, is a main contributor to disparities in cessation experienced by racial/ethnic minorities.(53,54) However, when provided equivalent access to effective smoking cessation treatment through proactive outreach, one study observed that Black Veterans quit at higher rates than non-Hispanic White Veterans.(55)

The 2023 NSDUH also reported that Veterans with any mental illness in the past year were significantly more likely to have used tobacco products or ENDS in the past month than Veterans without a mental illness (39.9% versus 25.4%).(39) Additionally, among Veterans, smoking increases the risk of chronic disease and premature death.(56)

VHA Population

VHA conducts an annual survey of Veterans enrolled for health care and assesses current use of cigarettes, smokeless tobacco products, and ENDS either every day, some days, or not at all. The enrollee survey does not report an overall prevalence of any tobacco product use. Due to differences in the survey questions, these rates are not directly comparable to the tobacco use prevalence among all Veterans determined by the NSDUH survey (which assesses past month use). In 2024, 11.0% of Veterans enrolled in VHA reported current use (smoking every day or some days) of cigarettes, 4.9% reported current use of smokeless tobacco products and 4.9% reported current use of ENDS devices.(57) Cigarette smoking rates were highest among Veterans aged 45-64 (14.4%), while smokeless tobacco use and ENDS use were highest among Veterans younger than 45 (10% and 14%, respectively). Among enrollees of the VHA, in 2024, 54.2% reported ever smoking cigarettes, with 11% reporting current smoking (8% daily

smoking, 3% nondaily smoking). Across all racial and ethnic groups, American Indian/Alaska Native non-Hispanic (AI/AN) (18.5%), Asian non-Hispanic (15.9%), and Black non-Hispanic enrollees (15.4%) had higher current smoking rates than White non-Hispanic (10.3%) and Hispanic enrollees (7.8%).⁽⁵⁸⁾

Between 2019 and 2024, the proportion of enrollees who currently smoked declined from 14.6% to 11.0%. In 2024, 77.6% of Veterans in VHA who had ever smoked cigarettes had successfully quit, and 127,993 Veterans reported successfully stopping between 2023 and 2024.⁽⁵⁸⁾

Tobacco use was estimated to cost VHA \$2.7 billion in 2010, representing 7.6% of all healthcare expenditures.⁽⁵⁹⁾ Comparatively, tobacco cessation treatment in the VHA has been shown to be cost-effective with an incremental cost-effectiveness ratio of \$4,700 per quit.⁽⁶⁰⁾ Approximately half of all Veterans who smoke attempt to stop each year, yet despite the interest in quitting, use of treatment remains low. In 2024, close to half (49.1%) of Veteran enrollees who currently smoke reported making an unsuccessful past-year cessation attempt. Less than one-third of those with an unsuccessful cessation attempt, 31.9%, reported using any smoking cessation medication for their quit attempt, while the majority, 67.1%, did not use any medication.⁽⁵⁸⁾ Pharmacotherapy, as well as behavioral treatment, increases the likelihood of successful cessation. This effectiveness has furthermore been demonstrated among Veterans enrolled in VHA; Veterans who received any type of pharmacotherapy had 24% higher odds of abstinence compared to those who did not receive pharmacotherapy.⁽⁶¹⁾ Increasing treatment utilization may help more Veterans successfully stop smoking and tobacco use.

D. Tobacco and Nicotine Impact on Readiness in the Military

Nicotine and tobacco product use poses a direct threat to military readiness, impairing Service members' health, performance, and overall operational effectiveness. Among active-duty Service members in 2023, current (within the past month) tobacco use was 22%; with 13% utilizing ENDS products, 8.6% using smoking products, and 6.5% using smokeless products.⁽⁴¹⁾ More recently, ENDS use has emerged as a growing issue, specifically amongst younger Service members (<35 years old), with Service members being three times more likely to use ENDS when compared to civilians.^(32,56) Importantly, an estimated 38% of Service members who smoke began using tobacco only after joining the military ^(22,62) Thus, tobacco use reduction efforts in military populations need to focus on preventive strategies tailored to unique military experiences and risk factors, and emphasize the improved performance related to non-use.

The adverse effects of nicotine and tobacco product use are particularly detrimental to the military, where optimal performance and readiness are essential. Acute nicotine withdrawal can reduce vigilance, impair cognitive function, and negatively impact performance in high-risk occupations such as aviation, affecting visual adaptation to the dark and reducing visual awareness in low lighting.⁽⁵⁶⁾ Regular use of tobacco products is linked to decreased physical endurance, increased rates of exercise-related injuries, and a higher risk of accidents and motor vehicle crashes. Nicotine and tobacco use also contribute to hearing loss, impaired underwater diving performance, and overall reductions in both short- and long-term health. Smoking also impairs strength and physical endurance by reducing the capacity of blood to carry oxygen.⁽⁵⁶⁾ From a force readiness standpoint, tobacco use leads to higher absenteeism and decreased productivity, compounding its impact beyond individual health risks.⁽⁶³⁾

Addressing nicotine use in the military presents unique challenges. Unfounded concerns amongst Service members and medical providers about the safety of cessation medications for personnel on flight/arming status or during deployment often limit treatment options. There is also debate over whether deployment is the right time to initiate or continue tobacco cessation efforts. This concern stems from the potential adverse effects of cessation medications (similar to concerns for any medication changes in theater), as well as the stresses of deployment and competing mission priorities, which may make it a less desirable time to begin cessation attempts. However, despite these challenges, some Service members also find deployment the ideal time to make drastic life changes due to reduced family responsibilities and increased time for other valued activities (i.e. exercise, new hobbies, socializing). Finally, tobacco cessation may be viewed as a lower priority relative to immediate operational needs, which can hinder sustained population-level progress in reducing use across the force.

While these barriers are important to note, it is also vital to remember that military service provides members with access to high-quality health care, often at no cost. This removes a significant barrier to care, primarily the financial burden that may be associated with cessation medications and behavioral therapy. Additionally, due to the dynamic nature of military medicine, telehealth services may be available to Service members in locations where they would otherwise be unable to access care – increasing availability for care regardless of where the mission takes them. Thus, although military service does create unique risk factors for tobacco and nicotine product initiation, it also provides ample resources to enhance cessation efforts.

Tobacco and nicotine cessation efforts in the military require effective population health efforts in order to reach Service members during vulnerable periods in their service. For example, research suggests that advanced training is a vulnerable time for Service members to re-initiate tobacco use following forced abstinence during basic training.(64) This provides a possible opportunity for intervention that may have lasting impacts on Service members' readiness and fitness across their careers. Similarly, the increased risk of tobacco and nicotine product initiation on deployment provides another opportunity for targeted interventions.(65) Understanding that the factors that lead to use for specific tobacco products may vary, for example, smokeless tobacco initiation is related to combat exposure, can also help with targeted interventions.(66) Of note, not everyone who begins tobacco use on deployment desires to continue use after re-deployment, suggesting a natural target for a tailored intervention.(41) Finally, the majority (77%) of individuals currently serving on active-duty are tobacco-free, suggesting that while tobacco use may be a coping skill for stress related to military service, it is not as common as many may assume. (41,66) Thus, while there are a variety of risk factors related to military service and tobacco use, there are also multiple targets for prevention and health promotion efforts that can potentially reduce use and improve readiness across the force.

The DOD spends over \$1.6 billion annually on tobacco-related medical care, increased hospitalization, and lost workdays.(56) This has led to DOD-wide policy changes over the past several decades, highlighting tobacco and nicotine product use as a readiness issue.(14) The DOD Instruction 1010.10 (Health Promotion and Disease Prevention) establishes DOD policy to prevent tobacco use initiation, promote cessation, and restrict where tobacco can be used by military personnel, aiming for a tobacco-free environment and a healthier force.(67) Policies

include banning smoking across most military installations (other than in designated smoking areas at least 50 feet from buildings), implementing pricing regulations for tobacco products, and integrating tobacco cessation programs into healthcare services. However, understanding and evaluating the overall effectiveness of these policies is an ongoing challenge. Service-specific guidance also exists regarding tobacco regulation and health promotion (AFI 48-104, AR 600-63, and SECNAVINST 5100.13F). The overall theme of the instructions is that due to the higher standards for overall health and well-being that are required of Service members, the DOD must guard against unnecessary risks (i.e., tobacco use). Framing tobacco use as a threat to readiness, and thus a threat to mission effectiveness, is the overarching tone of these publications; the importance of correctly understanding tobacco use in this framework cannot be overstated. Work must also be done to correct misconceptions that may persist in Service members, such as the belief that some products may improve performance (i.e., nicotine for physical performance) or the fear of tobacco cessation medications. Without dismantling these beliefs, uptake of best available treatments may not increase despite efforts to increase access.

Overall, tobacco and nicotine product use continues to compromise health, readiness, and mission effectiveness. Military service is associated with increased risk of initiation, and certain periods of military service (i.e., technical training or deployment) appear to be unique periods of vulnerability. Targeted strategies that balance operational demands with long-term health promotion are essential to reducing the burden of nicotine in military populations. Continued reinforcement of tobacco cessation as a readiness enhancer, through DOD policy, can help encourage increased research into effective tobacco cessation efforts at the individual and population level.

E. Tobacco Use in Select Sub-Populations

Prevalence rates of cigarette smoking and tobacco use vary by sociodemographic factors, including sex, age, race, ethnicity, rurality, sexual orientation, and socioeconomic status. Men are more likely to smoke cigarettes and use smokeless tobacco than women; younger individuals are more likely to use ENDS than older individuals; lesbian, gay, bisexual and transgender (LGBT) populations have higher rates of tobacco use than heterosexual populations; and rural populations have higher rates of tobacco use than urban populations.(68) Similar patterns are also observed in the military and Veteran population.(48)

Among U.S. adults in 2022, only half reported receiving advice and assistance from a health care professional to quit.(48) Hispanic adults reported lower rates of advice and assistance with quitting than both Black and White adults; however, both groups reported significantly lower rates of smoking cessation treatment utilization than White adults.(48)

Population with Mental Health Conditions

Smoking is a significant health problem for people with mental health diagnoses. People with a mental health diagnosis exhibited 2-4 times higher rates of smoking than the general population. While this data is not specific to Veteran and military populations, it demonstrates the higher rates of morbidity and mortality from smoking-related conditions in populations with mental health diagnoses.(69,70)

Tobacco use also contributes to persistent inequalities and lower quality of life for these individuals and may lead to significant financial strain. Persons with schizophrenia were found to spend an average of 27% of their total income on cigarettes(71), and those with serious mental health diagnoses (e.g., schizophrenia) die on average 25 years earlier than the general population, and 60% of this excess mortality risk is due to smoking-related illnesses.(72) Tobacco-related chronic diseases such as cardiovascular disease, Chronic Obstructive Pulmonary Disease (COPD), diabetes, and cancers are higher among this population when compared to the general population.(73,74)

Despite concerns from mental health professionals, smoking cessation does not lead to worsening symptoms in persons with mental health diagnoses, but rather results in improvement of symptoms over time.(75) People with mental health diagnoses are interested in quitting tobacco use at about the same rate as the general population.(76,77)

Most research focused on the implementation of tobacco use treatment has taken place in primary care.(78,79) Relying on primary care to address tobacco will miss the 30-55% of people who are engaged in mental health care but do not visit primary care regularly.(80,81) People with psychotic disorders and bipolar disorder in particular have some of the highest smoking rates, yet are significantly less likely to have a routine primary care follow-up compared to people without mental health conditions.(82)

Multiple barriers exist to increasing tobacco treatment in mental health clinics. Although efforts have been made to address tobacco use cessation training for mental health providers, there is a paucity of research on how to best change systems of care to optimize tobacco use treatment delivery and uptake in mental health care settings.(83)

Populations with Substance Use¹

Tobacco use and other substance use disorders (SUDs) frequently co-occur.(84) Addressing tobacco use concurrently with other SUDs can significantly improve the chances of successful recovery and long-term health outcomes.(85) A substantial amount of the premature morbidity and mortality experienced by individuals with SUDs is directly attributable to their tobacco use.(85)

Individuals with SUDs often face a higher risk of tobacco use, and vice versa, due to a complex interplay of shared risk factors, neurological mechanisms, and behavioral patterns. This interconnectedness poses significant challenges for both patients and healthcare providers.(84,86)

A key factor contributing to this comorbidity is the overlap in vulnerability. Genetic predispositions, environmental influences such as exposure to substance use, and co-occurring mental health conditions like depression or anxiety can increase the likelihood of engaging in both tobacco and other drug use.(84,86) This shared vulnerability often results in the use of multiple substances, complicating treatment efforts.

¹ See the 2021 VA/DOD Clinical Practice Guideline for the Management of Substance Use Disorder. Available at: <https://www.healthquality.va.gov/>

Furthermore, the addictive properties of nicotine mirror those of other recreational drugs. Nicotine, similar to substances like cocaine or heroin, stimulates the brain's reward system by increasing dopamine levels, leading to feelings of pleasure and reinforcing addictive behaviors.(87,88) This neurobiological commonality makes quitting tobacco extremely difficult, particularly when other substances are also impacting these neural pathways.

The phenomenon of cross-tolerance further complicates clinical care. Using tobacco can lower the body's sensitivity to other substances, leading individuals to require higher doses to achieve the desired effect.(89) Concurrent cigarette smoking has been shown to reduce the effectiveness of cocaine abuse treatment.(90) Additionally, quitting multiple substances simultaneously can lead to a cascade of withdrawal symptoms, making recovery even more challenging.(91)

Tobacco use can directly interfere with the effectiveness of treatments for other SUDs. Moreover, the presence of one addictive substance can act as a powerful trigger for relapse to others.(92) Addressing tobacco use is therefore not merely about mitigating the health risks of smoking, but also about improving the overall prognosis for individuals with substance use disorders.

Populations with other Chronic Conditions

For the comprehensive management of patients presenting with tobacco use and one or more of the following concerns or treatment needs, healthcare providers should refer to the appropriate VA/DOD Clinical Practice Guideline, as available, at <http://www.healthquality.va.gov/>. CPGs are available for Asthma, Bipolar Disorder, Chronic Insomnia Disorder and Obstructive Sleep Apnea, Chronic Kidney Disease, Chronic Multisymptom Illness, COPD, Diabetes Mellitus, Headache, Hypertension, Low Back Pain, Major Depressive Disorder (MDD), Mild Traumatic Brain Injury, PTSD, Opioid Therapy for Chronic Pain, Osteoarthritis, Schizophrenia, Stroke, SUD, and Suicide. Adjustments to treatment should be made consistent with existing clinical practice guidelines, if indicated, with a focus on concurrent treatment for both conditions.

F. Strategies to Promote Treatment Engagement

Over two-thirds of U.S. adults who use tobacco report wanting to stop smoking, with less than 10% achieving success each year. In 2024, 49% of Veterans enrolled in VHA who currently smoked reported making a past-year cessation attempt.(58) For active military personnel, the 2018 DOD HRBS reported that 46.5% of current individuals who smoke had attempted to quit in the past year.(36) Approximately half of U.S. adults who smoke and saw a health professional in 2022 reported receiving advice and recommendations on tools for tobacco cessation during their health encounters.(49,93) Evidence supports that brief advice for tobacco cessation from health professionals is cost-effective and can promote success. Furthermore, providing individuals who use tobacco with tools to stop smoking and explaining the safety and effectiveness of evidence-based therapies may reduce barriers to tobacco cessation.

Utilization of Evidence-Based Therapies

A recent study of smoking cessation treatment utilization demonstrated that half of U.S. respondents reporting cessation attempts do not employ any evidence-based treatment.(94) Of U.S. adults attempting cessation, 45% reported using Food and Drug Administration (FDA) approved medications, and 5% reported using cessation services (i.e., counseling). These numbers may be lower among Veterans enrolled in VHA, as only 32% of individuals who smoked with a past year quit attempt reported using medication during their most recent cessation attempt.(58) Thus, many people who smoke do not employ any evidence-based assistance when attempting cessation, and only a small minority utilize optimal treatment, the combination of medications and counseling, which has the best cessation outcomes.(95) These findings suggest that overall cessation rates could be dramatically improved by increasing utilization of evidence-based treatments (96), thereby highlighting the importance of strategies for enhancing tobacco cessation treatment engagement.

Examples of Current Services Offered in the DOD and VHA

In 2007, the DOD launched the YouCanQuit2 (<https://ycq2.org>) educational campaign to assist Service members achieve tobacco cessation. YouCanQuit2 is currently the official DOD Tobacco Cessation Program that supports Service members, their families, and Veterans to stop using tobacco. The program aligns with the Defense Health Agency's mission in efforts to sustain a ready and resilient force. Participants in the program are provided with educational materials, counseling (online and in-person), and other resources to support tobacco cessation. In addition to the YouCanQuit2 program, Service members under TRICARE (<https://tricare.mil/tobaccocessation>), the military's health care program, can receive tobacco cessation services including counseling and pharmacotherapy. Individual military services and military treatment facilities may also have their own tobacco cessation programs for enrolled beneficiaries.

VHA offers behavioral counseling and pharmacotherapy to all enrolled Veterans that use tobacco. Behavioral counseling is provided without a co-payment per 38 CFR § 17.108(e). VHA has several national programs available for Veterans, including a telephone quitline, 1-855-QUIT-VET; a text message program, SmokefreeVET; a smartphone app, Stay Quit Coach; and web tools at <http://veterans.smokefree.gov>. Information about all of the resources available to Veterans from VHA can be found at: <https://www.mentalhealth.va.gov/quit-tobacco/>.

Motivational Interviewing (MI) for Tobacco Treatment Engagement

Motivational interviewing (MI) is a counseling approach designed to strengthen motivation and commitment for engaging in positive behavioral change.(97) Evidence for MI as a brief stand-alone treatment for smoking cessation has been equivocal.(98) For example, given its focus on enhancing motivation and commitment, MI may hold promise when directed toward treatment engagement. Accumulating research confirms that the beneficial effects of brief MI are most pronounced when used as a proactive approach prior to engaging in existing evidence-based treatment rather than as stand-alone-treatment. When examined across a wide variety of substance use and behavioral domains (alcohol, tobacco, illicit drug adherence, etc.) studies indicate that relative to control groups, brief motivational interventions have repeatedly shown beneficial effects on treatment entry (99), attendance (100), and adherence.(101) Importantly, the

efficacy of these brief interventions can be accounted for by enhanced engagement in evidence-based treatment rather than by increasing motivation for change alone.(102)

Tobacco Dependence is a Chronic Condition

As with other substance use disorders, tobacco dependence should be treated as a chronic relapsing condition. Treatment guidelines for many chronic disorders, e.g., hypertension (103) and diabetes (104), instruct providers to give evidence-based therapies by default unless patients refuse (or opt-out of) treatment. In contrast, tobacco treatment guidelines have historically directed providers to assess motivation for cessation and only offer treatment for those who express such motivation, thus employing an opt-in approach.(105)

As with other chronic conditions, treatment of tobacco dependence should also include long-term follow-up by healthcare professionals to identify and prevent recurrence.

III. Scope of This Guideline

This CPG is based on published clinical evidence and related information available between January 1, 2014, to December 10, 2024. It is intended to provide general guidance on best evidence-based practices (see [Appendix A](#) for additional information on the evidence review methodology). Although the CPG is intended to improve the quality of care and clinical outcomes (see [Introduction](#)), it is not intended to define a standard of care (i.e., mandated or strictly required care).

A. Guideline Audience

This CPG is intended for use by VA and DOD primary care providers and others involved in the health care team who provide health care to tobacco or nicotine users (e.g., physicians, nurses, nurse practitioners, physician assistants, dentists, respiratory therapists, psychologists, social workers and counselors, pharmacists, and others).

B. Guideline Population

This CPG is intended for adults (18 years or older) with use of a tobacco or nicotine product of any variety (including smoking, electronic nicotine delivery systems, smokeless tobacco, dissolvable nicotine pouches, etc.) who are users of the VA and DOD healthcare systems. This includes Veterans and Service members as well as their eligible adult dependents.

IV. Highlighted Features of This Guideline

A. Components of This Guideline

This is a new VA/DOD Evidence-Based CPG. The major strengths of this CPG are the use of GRADE methodology and the coordination and collaboration among the members of the multidisciplinary CPG Development Work Group, ensuring a broad representation of providers engaged in the care of patients using tobacco and nicotine. The following paragraphs summarize selected important clinical recommendations and findings for providers who use this CPG. The Work Group also developed an [Algorithm](#) to support clinical workflow that aligns with the

evidence-based recommendations and insights. This CPG also includes [Research Priorities](#), which list areas the Work Group identified as needing additional research. To accompany this CPG, the Work Group also developed toolkit materials for providers and patients, including a provider summary, a patient summary, and a quick reference guide, which can be found at <https://www.healthquality.va.gov/index.asp>.

The Work Group developed 32 new evidence-based recommendations; including 7 “Strong for” recommendations, 13 “Weak for” recommendations, 10 “Insufficient evidence to recommend for or against” recommendations, and 2 “Weak against” recommendations. Most of the recommendations in this guideline are directed toward healthcare providers; however, three recommendations are about interventions directed to healthcare organizations for system-wide implementation.

After a systematic review of the evidence on tobacco and nicotine cessation interventions, the Work Group found the following:

1. Use of motivational interviewing increases engagement in treatment for tobacco and nicotine cessation. (*Weak for*)
2. Pharmacotherapy:
 - a. FDA-approved pharmacotherapies are recommended for attaining abstinence from combustible tobacco. (*Strong for*)
 - b. For patients using nicotine replacement therapy (NRT), combination treatment with patch and short-acting NRT is more effective than using a single form of NRT for increasing abstinence. (*Strong for*)
 - c. As a single agent, varenicline is recommended above other medications for attaining abstinence from all tobacco and nicotine products. (*Strong for*)
 - d. There is insufficient evidence for using varenicline or NRT beyond the standard duration (12 weeks). (*Neither for nor against*)
 - e. In patients using bupropion sustained release, we suggest extending use beyond 12 weeks to maintain abstinence from combustible tobacco. (*Weak for*)
 - f. To achieve abstinence from smokeless tobacco or ENDS both varenicline (*Strong for*) or NRT (*Weak for*) are effective.
 - g. For patients undergoing surgery, starting varenicline pre-operatively assists with tobacco cessation. (*Weak for*)
 - h. For tobacco cessation, the Work group suggests against using ENDS, which is not approved by the FDA for treatment of any medical condition. (*Weak against*)
3. Intensive behavioral counseling increases abstinence (4 or more sessions). (*Strong for*)
4. Text messaging programs increase abstinence. (*Weak for*)
5. For patients who attain abstinence but then resume using tobacco or nicotine products, immediate repeat treatment is suggested. (*Weak for*)
6. For patients not yet ready to quit tobacco or nicotine products, NRT or varenicline may be offered to increase quit attempts and improve abstinence. (*Weak for*)
7. For individuals who use tobacco and nicotine and have a stable co-occurring mental health condition or alcohol/substance use disorder, concurrent treatment with

pharmacotherapy and behavioral counseling for tobacco or nicotine use is suggested.
(*Weak for*)

8. Complementary and Integrated Health interventions (e.g., acupuncture, mindfulness, and hypnotherapy) alone are ineffective treatments for attaining abstinence from tobacco and nicotine products. (*Weak against*)
9. Healthcare organizations can implement system-level interventions such as proactive outreach (*Strong for*) and contingency management (*Weak for*) to those who use tobacco and nicotine to increase engagement with treatment.

B. Demographic Terminology in This Guideline

The demographic terms used in this guideline are derived from the published literature sources included in the systematic review (SR) and evidence base. The Work Group used terms such as Black rather than African American and White rather than Caucasian to avoid presumptions about ancestry and improve clarity and consistency. In order to accurately present the research evidence on which this CPG is based, the Work Group made every effort to use the same terminology as reported in the published literature base of SRs, clinical trials, and other studies. Consequently, usage of demographic terms in this CPG may vary and appear inconsistent.

V. Guideline Development Team

The VA Evidence Based Practice, Office of Quality and Patient Safety, in collaboration with the Clinical Quality Improvement Program, Defense Health Agency, identified the following four providers to serve as Champions (i.e., leaders) of this CPG's Work Group: Dana Christofferson, PhD, and Mark Myers, PhD, from VA; and Jackie Hayes, MD, FACP, FCCP and Patricia Vu, MD, PhD, MPH, from DOD. The Work Group was comprised of individuals with the following areas of expertise: primary care, pulmonology, pharmacy, behavioral and public health, clinical psychology, and preventive medicine. [Table 1](#) lists the Work Group and Guideline Development Team members.

This CPG Work Group, led by the Champions, was tasked with:

- Determining the scope of the CPG;
- Crafting clinically relevant key questions (KQs) to guide the systematic evidence review;
- Identifying discussion topics for the patient focus group and considering the patient perspective;
- Providing direction on inclusion and exclusion criteria for the systematic evidence review and the assessment of the level and quality of evidence; and
- Developing evidence-based clinical practice recommendations, including determining the strength and category of each recommendation.

Sigma Health Consulting and Duty First Consulting were contracted by the VA to help develop this CPG.

Table 1. Guideline Work Group and Guideline Development Team

Organization	Names*
Department of Veteran Affairs	Dana Christofferson, PhD (Champion)
	Mark Myers, PhD (Champion)
	Steven Fu, MD, MSCE
	Jacqueline Spencer, MD
	Linda Valles-Gutierrez, DNP, FNP-BC, TTS
	Timothy Chen, PharmD, MPH
	Mark Geraci, PharmD, BCOP
	Jessica Cook, PhD
	Patrick Calhoun, PhD
	Scott Sherman, MD, MPH
Department of Defense	Jackie Hayes, MD, FACP, FCCP (Champion)
	Patricia Vu, MD, PhD, MPH (Champion)
	Carmen Peterson, MSN, RN, CCM
	Nicole M. Wilson, MS, RN, LSSGB, C-NHC
	Beverly Benson, RN, BSN, MS, BC
	James Stewart, DO, MPH
	Allyson Sleeman, PharmD, BCPS
	Taylor Zurlinden, PhD
	Sara Pulliam, PsyD, ABPP
	Terri Holt, MSN, RN, CPT, AN
	Christina Ferguson, RN, BSN, MSN, LNC
VA Evidence Based Practice, Office of Quality and Patient Safety, Veterans Health Administration	James Sall, PhD, FNP-BC
	René M. Sutton, BS, HCA, FAC-COR II
	Jennifer Ballard-Hernandez, DNP, RN, FNP-BC
	Jessica M. Bingham PhD-c, RN, NE-BC, EBP-C
	Kelly Gantt, DNP, MBA-HCM
Clinical Quality Improvement Program, Defense Health Agency	Margaret Rincon, PharmD
	Jenifer Meno, DNP, FNP-BC, AMB-BC, NEA-BC, FAANP
	Gwendolyn Holland, MSN, RN
	Lynn M. Young, BSN, RN, CIC
Sigma Health Consulting, LLC	Frances M. Murphy, MD, MPH
	Anjali Jain, MD
	James G. Smirniotopoulos, MD
	William Wester, MLIS
	James Reston, PhD, MPH

Organization	Names*
	Joann Fontanarosa, PhD
	Janice Kaczmarek, MS
	Jennifer Falgione, MPH
	Ruth Bekele, MPP
	Rachel McCausland, MPH
	Susan Connor, PhD
	Sophie Roberts, BS
	Dan Sztubinski, BS
	Emilio Berdiel, MPH
	Aggee Loblack, MPH
	Rebecca Rishar, MLIS
	Lina Santaguida, PhD, MSc
	Nancy Sullivan, BA
<i>Duty First Consulting</i>	Kate Johnson, BS
	Anita Ramanathan

*Additional contributor contact information is available in [Appendix C](#)

VI. Summary of Guideline Development Methodology

The methodology used in developing this CPG follows the Guideline for Guidelines, an internal document of the VA/DOD EBPWG updated in January 2019 that outlines procedures for developing and submitting VA/DOD CPGs.(106) The Guideline for Guidelines is available at <http://www.healthquality.va.gov/policy/index.asp>. This CPG also aligns with the National Academy of Medicine's (NAM) principles of trustworthy CPGs (e.g., explanation of evidence quality and strength, management of potential conflicts of interest [COI], interdisciplinary stakeholder involvement, use of SR and external review).(107) [Appendix A](#) provides a detailed description of the CPG development methodology.

A. Evidence Quality and Recommendation Strength

The Work Group used the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach to craft each recommendation and determine its strength. Per the GRADE approach, recommendations must be evidence-based and cannot be made based on expert opinion alone. The GRADE approach uses the following four domains to inform the strength of each recommendation (see [Determining Recommendation Strength and Direction](#))(108):

1. Balance of desirable and undesirable outcomes
2. Confidence in the quality of the evidence
3. Patient or provider values and preferences
4. Other implications, as appropriate (e.g., resource use, equity, acceptability, feasibility, subgroup considerations)

Using these four domains, the Work Group determined the relative strength of each recommendation (*Strong or Weak*). The strength of a recommendation is defined as the extent to which one can be confident that the desirable effects of an intervention outweigh its undesirable effects and is based on the framework above, which incorporates the four domains.(109) A Strong recommendation generally indicates High or Moderate confidence in the quality of the available evidence, a clear difference in magnitude between the benefits and harms of an intervention, similar patient values and preferences, and understood influence of other implications (e.g., resource use, feasibility). A recommendation's strength (i.e., Strong versus Weak) does not reference its clinical importance (e.g., a Weak recommendation is evidence-based and still important to clinical care).

In some instances, the systematic evidence review might have found little or no relevant evidence, inconclusive evidence, or conflicting evidence for a particular therapy or intervention. The way this finding is expressed in the CPG might vary. The Work Group might include a statement among its recommendations acknowledging insufficient evidence for or against a commonly practiced intervention, particularly if it lacks supporting clinical evidence and poses potential risks (e.g., high opportunity cost, misallocation of resources). In other cases, the Work Group might choose to remain silent in cases where evidence is lacking for a rarely used intervention or when an

intervention, despite the absence of recent evidence, is considered the standard of care and has a favorable balance of benefits and harms.

Using these elements, the Work Group determines the strength and direction of each recommendation and formulates the recommendation with the general corresponding text as shown in [Table 2](#).

Table 2. Strength and Direction of Recommendations and General Corresponding Text

Recommendation Strength and Direction	General Corresponding Text
Strong for	We recommend . . .
Weak for	We suggest . . .
Neither for nor against	There is insufficient evidence to recommend for or against . . .
Weak against	We suggest against . . .
Strong against	We recommend against . . .

That a recommendation’s strength (i.e., Strong versus Weak) is distinct from its clinical importance (e.g., a Weak recommendation is evidence based and still important to clinical care) is important to note. The strength of each recommendation is shown in [Recommendations](#).

This CPG’s use of GRADE reflects a more rigorous application of the methodology than previous iterations; the determination of the strength of the recommendation is more directly linked to the confidence in the quality of the evidence on outcomes that are critical to clinical decision-making. The confidence in the quality of the evidence is assessed using an objective, systematic approach independent of the clinical topic of interest. Therefore, recommendations on topics for which designing and conducting rigorous studies (e.g., randomized controlled trials [RCTs]), might be inherently more difficult, are typically considered lower quality evidence and, in turn, are usually Weak recommendations. Recommendations on topics for which rigorous studies can be designed and conducted (e.g., RCTs) may more often be Strong recommendations. Per GRADE, if the quality of evidence differs across the relevant critical outcomes, the lowest quality of evidence for any of the critical outcomes determines the overall quality of the evidence for a recommendation.(110,111) This stricter standard provides a consistent approach to determining recommendation strengths. For additional information on GRADE or CPG methodology, see [Appendix A](#).

B. Categorization of Clinical Practice Guideline Recommendations

Evidence-based CPGs should be current. Except for an original version of a new CPG, staying current typically requires revision of a CPG’s previous versions based on new evidence or as scheduled subject to time-based expirations.(112) For example, the U.S. Preventative Services Task Force (USPSTF) has a process for monitoring the emergence of new evidence that could prompt an update of its recommendations, and it aims to review each topic at least every five years for either an update or reaffirmation.(113)

Recommendation categories are used to track how the previous CPG's recommendations could be reconciled. These categories and their corresponding definitions are similar to those used by the National Institute for Health and Care Excellence (NICE, England).^(114,115) [Table 3](#) lists these categories, which are based on whether the evidence supporting a recommendation was systematically reviewed, the degree to which the previous CPG's recommendation was modified, and whether a previous CPG's recommendation is relevant in the updated CPG.

Additional information regarding these categories and their definitions can be found in [Recommendation Categorization](#). The 2026 VA/DOD Tobacco Use Treatment CPG recommendation categories can be found in [Recommendations](#). [Appendix B](#) outlines the 2026 VA/DOD Tobacco Use Treatment CPG's recommendation categories.

Table 3. Recommendation Categories and Definitions*

Evidence Reviewed*	Recommendation Category*	Definition*
Reviewed	New-added	New recommendation following review of the evidence
	New-replaced	Recommendation from previous CPG that has been carried over to the updated CPG and has been changed following review of the evidence
	Not changed	Recommendation from previous CPG that has been carried forward to the updated CPG where the evidence has been reviewed but the recommendation is not changed
	Amended	Recommendation from the previous CPG that has been carried forward to the updated CPG where the evidence has been reviewed and a minor amendment has been made
	Deleted	Recommendation from the previous CPG that has been removed based on review of the evidence
Not reviewed	Not changed	Recommendation from previous CPG that has been carried forward to the updated CPG, where the evidence has not been reviewed and the recommendation has not changed
	Amended	Recommendation from the previous CPG that has been carried forward to the updated CPG, where the evidence has not been reviewed and a minor amendment has been made
	Deleted	Recommendation from the previous CPG that has been removed because it was deemed out of scope for the updated CPG

*Adapted from the NICE guideline manual (2012)⁽¹¹⁵⁾ and Garcia, et al. (2014)⁽¹¹⁴⁾

Abbreviations: CPG: clinical practice guideline

C. Management of Potential or Actual Conflicts of Interest

Management of COIs for the CPGs is conducted as described in the Guideline for Guidelines.⁽¹⁰⁶⁾ Further, the Guideline for Guidelines refers to details in the VHA Handbook 1004.07 Financial Relationships between VHA Health Care Professionals and Industry (November 2014, issued by the VHA National Center for Ethics in Health Care)⁽¹¹⁶⁾ as well as to disclosure statements (i.e., standard disclosure form completed at least twice by CPG Work Group members and the guideline development team).⁽¹⁰⁶⁾ The disclosure form inquires about relevant financial and intellectual interests or other relationships with, for example, manufacturers of commercial products, providers of commercial services, or other commercial interests. The

disclosure form also inquires about any other relationships or activities that could be perceived to have influenced, or give the appearance of potentially influencing, a respondent's contributions to the CPG. In addition, instances of potential or actual COIs among the CPG Work Group and the guideline development team were subject to random web-based identification via standard electronic means (e.g., Centers for Medicare & Medicaid Services Open Payments, ProPublica).

D. Patient Perspective

When developing a CPG, consideration should be given to patient perspectives and experiences, which often differ from those of providers.⁽¹¹¹⁾ Focus groups can be used to help collect qualitative data on patient perspectives and experiences. VA and DOD Leadership arranged a virtual patient focus group on September 30, 2024. The focus group aimed to gain insights into the perspectives of individuals who received care in the VA and DOD healthcare systems for tobacco cessation and incorporated these insights into the CPG, as appropriate. Topics discussed included various treatments they have used, the stigma they have experienced as persons who smoke, financial barriers to treatment, and life motivators that inspired them to quit using tobacco.

The patient focus group was comprised of a convenience sample of four participants, which included one woman and three men. Participants were mixed in terms of receiving care from VA and DOD providers. Participants began using tobacco earlier in life, and two participants had successfully quit using all tobacco products at the time of the patient focus group, with the other two currently attempting to quit. All participants had experienced relapse in their attempts to quit. The Work Group acknowledges that this convenience sample is not representative of all individuals who have undergone tobacco cessation treatment within the VA and DOD healthcare systems, and thus, findings are not generalizable and do not comprise evidence. For more information on the patient focus group methods and findings, see [Appendix D](#). Patient focus group participants were provided with the opportunity to review the final draft of this CPG and share additional feedback.

E. External Peer Review

The Work Group drafted, reviewed, and edited this CPG using an iterative process. For more information, see [Drafting and Finalizing the Guideline](#). Once the Work Group members completed a near-final draft, they identified individuals from VA and DOD health care systems and external organizations generally viewed as experts in their respective fields. The draft was sent to those experts for a 14-business-day review and comment period. The Work Group considered all feedback from the peer reviewers and modified the CPG where justified, in accordance with the evidence. Detailed information on the external peer review may be provided by the VA Office of Quality and Patient Safety.

F. Implementation

This CPG and algorithm are designed for adaptation by individual health care providers with respect to unique patient considerations and preferences, local needs, and resources. The algorithms serve as a tool to prompt providers to consider key decision points in the care of patients who would benefit from tobacco use treatment. The Work Group submits suggested performance metrics for VA and DOD to use when assessing the implementation of this CPG.

Robust implementation is identified in VA and DOD internal implementation plans and policies. Additionally, implementation will entail wide dissemination through publication in the medical literature, online access to the final CPG, educational programs, and ideally, electronic medical record programming in the form of clinical decision support tools at the point-of-care.

VII. Approach to Care in the Department of Veterans Affairs and the Department of Defense

A. Patient-Centered Care

VA and DOD encourage providers to be sensitive to demographic, cultural, and other differences that affect patients' values, needs, and preferences. Patient-centered care is aimed at treating the condition while also optimizing the individual's overall health and well-being. Regardless of the care setting, all patients should have access to individualized evidence-based care. Patient-centered care can decrease patient anxiety, increase trust in providers, and improve treatment adherence.^(117,118) A holistic health approach (<https://www.va.gov/wholehealth/>) empowers and equips individuals to meet their personal health and well-being goals. Good communication is essential and should be supported by evidence-based information tailored to each patient's needs. Guideline recommendations should be applied in a holistic approach to care that is patient-centered, culturally appropriate, and available to people with limited literacy skills and physical, sensory, or learning disabilities.

B. Shared Decision-Making

This CPG encourages providers to practice shared decision making (SDM), a process in which providers, patients, and patient care partners (e.g., family, friends, caregivers) consider clinical evidence of benefits and risks as well as patient values and preferences to make decisions regarding the patient's treatment.⁽¹¹⁹⁾ SDM is emphasized in "Crossing the Quality Chasm", an Institute of Medicine, now NAM, report in 2001 (¹²⁰) and is a core component of a patient-centered, whole health approach. Providers must be adept at presenting information to their patients regarding individual treatments, expected risks, possible outcomes, and levels and/or settings of care, especially where patient heterogeneity in weighing risks and benefits might exist. The VA and DOD have embraced SDM. Providers are encouraged to use SDM to individualize treatment goals and plans based on patient capabilities, needs, values, and preferences.

C. Patients with Co-occurring Conditions

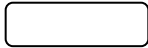

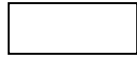

Co-occurring conditions can modify the degree of risk, impact diagnosis, influence patient and provider treatment priorities and clinical decisions, and affect the overall approach to tobacco cessation management. Many Veterans, active-duty Service members, and their families have one or more co-occurring conditions. Because tobacco cessation is often accompanied by co-occurring conditions, collaborative management with other care providers is often best. Some co-occurring conditions may require early specialist consultation to determine necessary changes in treatment or establish a common understanding of how care should be coordinated.

VIII. Algorithm

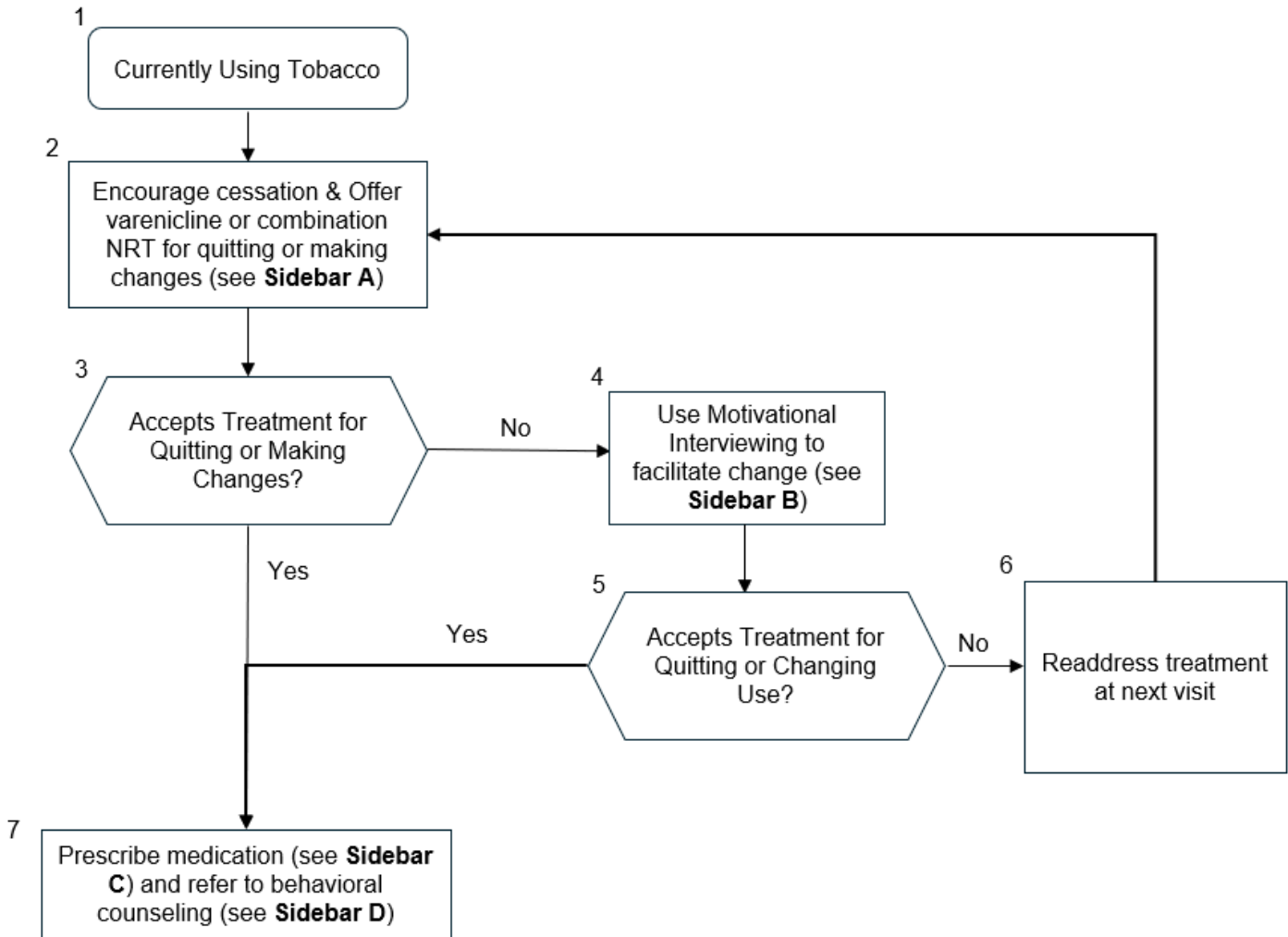
This CPG's algorithm is designed to facilitate understanding of the clinical pathway and decision-making process used in the management of tobacco cessation. It includes:

- An ordered sequence of steps of care
- Recommended observations and examinations
- Decisions to be considered
- Actions to be taken

The algorithm is a step-by-step decision tree. Standardized symbols are used to display each step, and arrows connect the numbered boxes indicating the order in which the steps should be followed.⁽¹²¹⁾ Sidebars provide more detailed information to assist in defining and interpreting elements in the boxes.

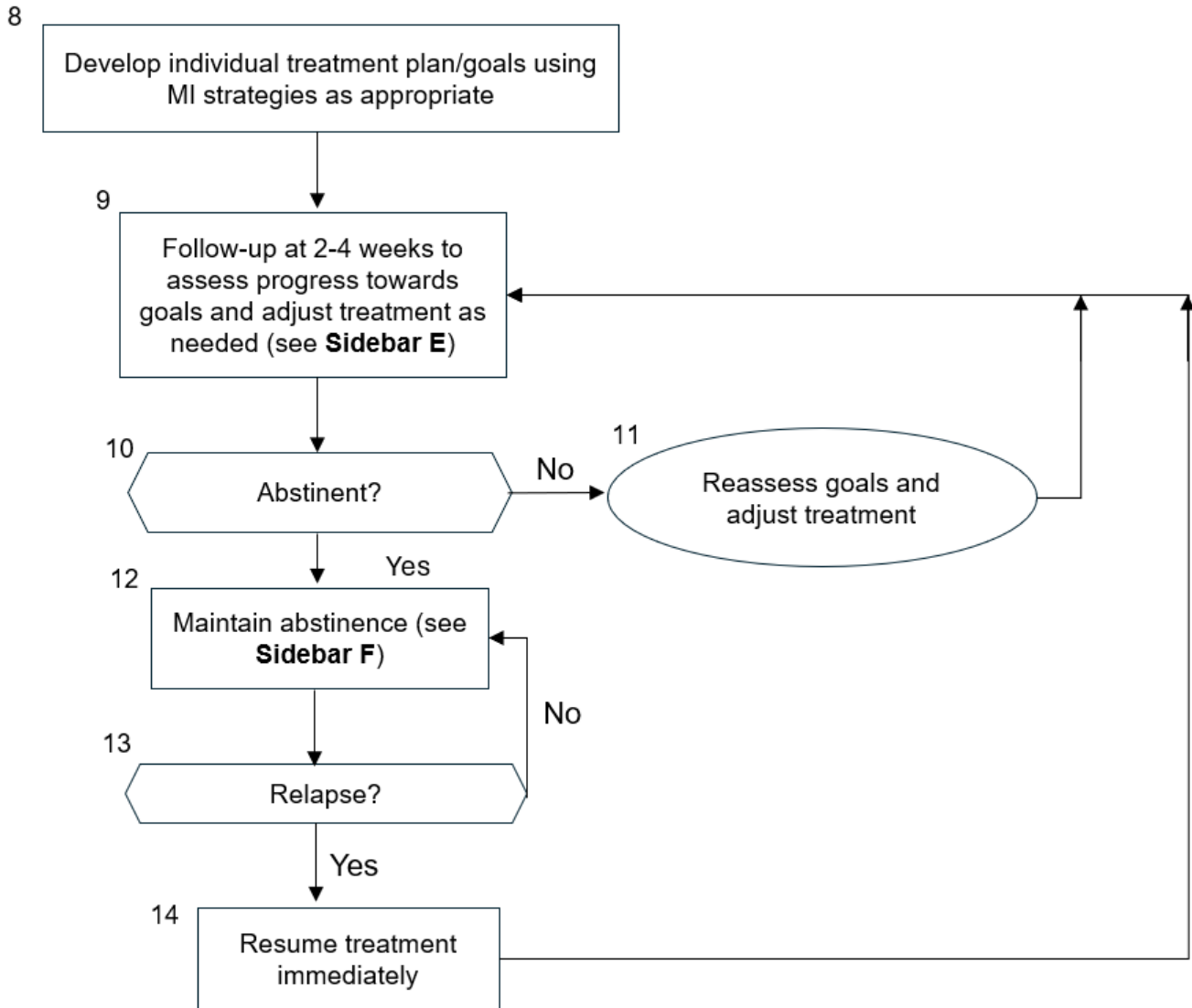
Shape	Description
	Rounded rectangles represent a clinical state or condition.
	Hexagons represent a decision point in the guideline, formulated as a question that can be answered "Yes" or "No".
	Rectangles represent an action in the process of care.
	Ovals represent a link to another section within the algorithm

Module A. Initial Treatment



Abbreviations: NRT: nicotine replacement therapy

Module B. Treatment Follow-up and Ongoing Care



Abbreviations: MI: Motivational Interviewing

Sidebar A: Treatment Offer Example Script

- *“Quitting tobacco use is the most important thing you can do for your health.”*
(How has using tobacco negatively affected your health or your life?)
- *“Nicotine replacement therapy or varenicline are medications that can help you quit tobacco use and can be used even if you are not ready to set a quit date.”*
- *“You can use medication to help you make some changes like cutting back on your tobacco use. It is safe to use these medications while smoking.”*
- *“What changes would you like to make to your tobacco use at this time?”*
 - Engage in shared decision making to decide on medication and behavioral support plan.
 - Use MI Strategies to enhance motivation for change: asking permission, open-ended questions, reflections, affirmations.

Abbreviations: MI: Motivational Interviewing

Sidebar B: Enhancing Motivation

If ambivalent or not ready for change:

- Enhance motivation:
 - Assess importance of making changes: *“How important is it for you to stop using tobacco (1=not important, 10= very important)”*
 - Elicit change talk:
 - If important (≥8) *“what makes it so important?”*
 - If less important (<8): e.g., *“why is it a 6 and not a 3?”*. This helps patient to articulate their reasons for considering cessation.
 - Reflect concerns/change talk (state and wait for response): *“X makes it important for you to stop using tobacco”*
 - With permission, discuss your concerns about their use:
“Can I share with you some concerns I have about your tobacco use?”
Link use to concerns relevant to reasons for visit or patient’s health issues e.g., physical health and disease, mental health, substance use recovery
- Ask what changes patient is considering making
 - Provide menu of change options: *“How do you feel about making changes to your tobacco use? Changing can include cutting down, changing use patterns, using medications before stopping, or stopping entirely. What, if any, of these changes would you like to make?”*
 - Reflect selected goal: and affirm willingness to make a change, e.g., *“Right now you’re ready to cut down. You’ve taken an important step by setting this goal. That shows a lot of commitment.”*
 - If patient still declines to set a goal, reflect and ask permission to revisit in future: *“I understand that right now you don’t want to make any changes to your tobacco use. Is it ok if we discuss this again at our next appointment?”*
- If change goal selected, restate and confirm identified goal: e.g., *“right now you want to work on cutting down”*

If declined treatment OR has set new change goal:

- Offer medication and counseling assistance for meeting selected goal(s)
 - Discuss value of medications and counseling: *“We know that using medications and counseling significantly increases your likelihood of success”*
 - *“What are your thoughts about using medications or counseling?”*
 - *“When you are ready, I can provide you with medications and/or connect you with behavioral support to help you reach your goals”*

* MI Strategies to employ: asking permission, open-ended questions, reflections, affirmations

Abbreviations: MI: Motivational Interviewing

Sidebar C: Pharmacotherapy**■ Varenicline:**

- Start at 0.5 mg daily for 3 days, then increase to 0.5 mg twice daily, then increase to target dose of 1 mg twice daily

■ Nicotine Replacement Therapy: A combination of long acting (patches) and short acting (gum or lozenges) is preferred

- Nicotine patches: 21 mg, 14 mg, and 7 mg
 - Moderate to high nicotine dependence or >10 cigarettes/day; start with 21 mg/day then taper
 - Low nicotine dependence or <10 cigarettes/day; start with 14 mg/day then taper

PLUS 1 of the following:

- Nicotine gum: 2 mg and 4 mg
 - Bite 1 piece (bite intermittently and park between cheek and gums)
 - May use up to 10 – 12 pieces of gum per day as needed
- Nicotine lozenges: 2 mg and 4 mg
 - Dissolve 1 lozenge orally between cheek and gums
 - May use up to 10 – 12 lozenges per day as needed
- Nicotine nasal spray: 0.5 mg per actuation
 - For one dose use with 1 spray in each nostril
 - May use up to 10-12 doses per day as needed
 - Max dosing is 5 doses per hour

■ Bupropion (sustained release):

- 150 mg daily for 3 days; then increase to 150 mg twice daily

* See [Appendix H](#) for a more detailed discussion of pharmacotherapy.

Abbreviations: mg: milligrams

Sidebar D: Behavioral Support

- Behavioral support can be delivered individually, in groups, over the phone, or digitally.
- Effective behavioral support includes the following components:
 - Enhance motivation for change
 - Help develop a plan for making a quit attempt or making changes
 - Discuss strategies for coping with craving and triggers (e.g., alcohol, other people who use tobacco at home, stress).
 - Encourage use of additional resources for support (e.g., 1-855-QUIT-VET or SmokefreeVET text)
- Referral Resources:
 - Quit Lines (1-800-QUIT-NOW; 1-855-QUIT-VET (for VHA enrollees)
 - Digital Interventions (Veterans.Smokefree.gov; ycq2.org)

Sidebar E: Assessing Treatment Plan Progress

- Ask open-ended questions about making changes or quitting
 - E.g., *“How have you been doing since we last talked?”*
- Ask about experience with taking cessation medications
 - *“Are you noticing any side effects?”*
 - *“How are the medication(s) helping with withdrawal or resisting the urge to smoke?”*
- Ask about needing medication refills
- Ask about use of behavioral strategies
 - *“What coping strategies are working for you?”*
- Ask patients who were working on making changes to their smoking if they are now ready to make a quit attempt
 - If yes, connect patient to cessation-focused treatment
 - If no, encourage continued medication use for making changes and provide motivational counseling

Sidebar F: Maintaining Tobacco-Free Lifestyle

- Congratulate patient on achieving abstinence and discuss immediate improvements to their health
- Discuss and reinforce positive changes:
 - Ask about any improved symptoms, since early “wins” help promote cessation.
 - Improved health and feeling better physically
 - Financial savings and benefits
 - Improved appearance including reduced wrinkling/aging of skin and whiter teeth
- Discuss triggers and how to manage or avoid them, such as:
 - Withdrawal symptoms
 - Fear of failure or guilt after slips
 - Weight gain
 - Enjoyment of tobacco
 - Being around other people who use tobacco
- Discuss improved health benefits
 - Improved taste and sense of smell
 - Heart rate and blood pressure will decrease
 - Circulation improves and lung function increases
 - Coughing and shortness of breath decrease
 - Risk of coronary heart disease and stroke decreases
 - Risk of mouth, throat, bladder, esophagus, cervical, pancreatic, and lung cancer decreases
- Focus on new health activities that can be enjoyed
 - Walking, biking, hiking, swimming, dancing, gardening or yoga

IX. Recommendations

The evidence-based clinical practice recommendations listed in the table below were developed using a systematic approach considering four domains as per the GRADE approach (see [Summary of Guideline Development Methodology](#)). These domains include confidence in the quality of the evidence, balance of desirable and undesirable outcomes (i.e., benefits and harms), patient values and preferences, and other implications (e.g., resource use, equity, acceptability).

Table 4. Evidence-Based Clinical Practice Recommendations with Strength and Category^{a,b}

While some of these recommendations may clearly be an element in a particular phase of care, others may require consideration throughout the continuum of care.

Topic	#	Recommendation	Strength ^a	Category ^b
Treatment Engagement	1.	We suggest using motivational interviewing to increase engagement in treatment for tobacco and nicotine use.	Weak for	Reviewed, New-added
Pharmacotherapy Interventions	2.	We recommend the use of FDA-approved pharmacotherapies (e.g., bupropion sustained release, nicotine replacement therapy [NRT], and varenicline) for increasing abstinence from combustible tobacco.	Strong for	Reviewed, New-added
	3.	For patients using nicotine replacement therapy (NRT), we recommend combination therapy (e.g., patch and short-acting NRT) over single NRT products for increasing abstinence from combustible tobacco.	Strong for	Reviewed, New-added
	4.	For patients receiving a single medication, we recommend varenicline over other monotherapies (e.g., bupropion sustained release; single-agent nicotine replacement therapy [NRT]) for increasing abstinence from combustible tobacco.	Strong for	Reviewed, New-added
	5.	In patients using bupropion sustained release, we suggest extending use beyond 12 weeks to maintain abstinence from combustible tobacco.	Weak for	Reviewed, New-added

Topic	#	Recommendation	Strength ^a	Category ^b
Pharmacotherapy Interventions	6.	There is insufficient evidence to recommend for or against the extended use of varenicline or nicotine replacement therapy beyond standard duration of therapy (12 weeks) to achieve abstinence from combustible tobacco.	Neither for nor against	Reviewed, New-added
	7.	We suggest using varenicline or nicotine replacement therapy (NRT) for increasing abstinence from electronic nicotine delivery systems (ENDS).	Weak for	Reviewed, New-added
	8.	We suggest using nicotine replacement therapy (NRT) for increasing abstinence from smokeless tobacco.	Weak for	Reviewed, New-added
	9.	We recommend using varenicline for increasing abstinence from smokeless tobacco.	Strong for	Reviewed, New-added
	10.	We suggest varenicline be started prior to surgery to assist patients in quitting tobacco use.	Weak for	Reviewed, New-added
	11.	There is insufficient evidence to recommend for or against the use of nicotine replacement therapy (NRT) or bupropion for tobacco cessation in the perioperative period.	Neither for nor against	Reviewed, New-added
Alternate Tobacco Products	12.	We suggest against electronic nicotine delivery systems (ENDS) products for improving abstinence from tobacco and nicotine products. (ENDS is classified as a tobacco product and is not FDA approved for any use)	Weak against	Reviewed, New-added
Behavioral Counseling Interventions	13.	We recommend more intensive behavioral counseling (at least four encounters) as compared to less intensive counseling to increase abstinence from tobacco and nicotine products.	Strong for	Reviewed, New-added
	14.	We suggest using text messaging (SMS) programs to increase abstinence from tobacco and nicotine products.	Weak for	Reviewed, New-added
	15.	There is insufficient evidence to recommend any specific behavioral counseling intervention over standard cognitive behavior therapy for tobacco cessation.	Neither for nor against	Reviewed, New-added
	16.	There is insufficient evidence to recommend for or against adding lifestyle interventions (e.g., diet,	Neither for nor against	Reviewed, New-added

Topic	#	Recommendation	Strength ^a	Category ^b
		exercise) to behavioral counseling for tobacco cessation.		
	17.	There is insufficient evidence to recommend either for or against smartphone apps for increasing abstinence from tobacco and nicotine products.	Neither for nor against	Reviewed, New-added
Return to Use	18.	If patients return to tobacco use, we suggest immediate repeat treatment with pharmacotherapy and counseling.	Weak for	Reviewed, New-added
Not Ready to Quit Population	19.	In patients not ready to quit (e.g., in the next 30 days), we suggest nicotine replacement therapy (NRT) to increase quit attempts.	Weak for	Reviewed, New-added
	20.	In patients not ready to quit (e.g., in the next 30 days), we suggest varenicline to increase quit attempts and abstinence from tobacco and nicotine products.	Weak for	Reviewed, New-added
	21.	There is insufficient evidence to recommend either for or against medication sampling* for increasing treatment engagement.	Neither for nor against	Reviewed, New-added
Treatment Recommendations for Selected Subpopulations	22.	In patients with stable mental health conditions, we suggest treating tobacco use with pharmacotherapy.	Weak for	Reviewed, New-added
	23.	In patients with stable mental health conditions, we recommend varenicline over single agent nicotine replacement therapy (NRT) or bupropion sustained release to improve continuous abstinence.	Strong for	Reviewed, New-added
	24.	We suggest counseling be adapted to address both tobacco use and co-occurring serious mental illness (e.g., bipolar disorder, schizophrenia, other psychotic disorders).	Weak for	Reviewed, New-added
	25.	In patients being treated for alcohol use disorder/substance use disorder, we suggest concurrently treating tobacco use with behavioral counseling and pharmacotherapy.	Weak for	Reviewed, New-added
	26.	There is insufficient evidence to recommend for or against counseling that combines treatment for tobacco use and depression or post-traumatic stress disorder compared to standard tobacco cessation counseling.	Neither for nor against	Reviewed, New-added

Topic	#	Recommendation	Strength ^a	Category ^b
	27.	There is insufficient evidence to recommend for or against the effectiveness of bupropion or nicotine replacement therapy for tobacco cessation during pregnancy.	Neither for nor against	Reviewed, New-added
Complementary and Integrative Health Interventions	28.	As a standalone therapy, we suggest against acupuncture, mindfulness, or hypnotherapy for abstinence from tobacco and nicotine products.	Weak against	Reviewed, New-added
	29.	There is insufficient evidence to recommend either for or against repetitive transcranial magnetic stimulation, transcranial direct current stimulation, and intermittent theta burst stimulation for abstinence from tobacco and nicotine products, reduced use, or cravings.	Neither for nor against	Reviewed, New-added
Interventions Implemented at System-level	30.	We recommend using proactive outreach to increase engagement in treatment for tobacco and nicotine use.	Strong for	Reviewed, New-added
	31.	We suggest the use of contingency management or incentives in combination with behavioral counseling and pharmacotherapy for treating tobacco and nicotine use.	Weak for	Reviewed, New-added
	32.	There is insufficient evidence to recommend either for or against the use of an opt-out approach to increase engagement in treatment for tobacco and nicotine use.	Neither for nor against	Reviewed, New-added

^a For additional information, please refer to [Determining Recommendation Strength and Direction](#)

^b For additional information, please refer to [Recommendation Categorization](#)

* Medication sampling for smoking cessation medications refers to the practice of providing individuals with a short term supply of medications used to help quit smoking so they can try the medication before committing to a full course of treatment.

A. Treatment Engagement

Recommendation

1. We suggest using motivational interviewing to increase engagement in treatment for tobacco and nicotine use.

Weak for | Reviewed, New-added

Discussion

MI is a proven, evidence-based approach that elicits and strengthens motivation for positive behavioral change. Key principles of MI include expressing empathy, avoiding confrontation, managing resistance gently, and enhancing self-efficacy through various counseling techniques. These techniques encompass open-ended questioning, reflective listening, summarizing, affirming, and encouraging self-motivated statements. While MI (in some settings) is referred to as motivational counseling, the terminology may vary across different professions based on their specific context and skill set. However, it's essential to recognize that there is significant evidence that supports the use of MI for smoking cessation. An SR by Heckman et al. (2011) (a study outside the evidence report provided to the Work Group) analyzed 31 smoking cessation research trials (9,485 participants) and demonstrated an overall odds ratio, comparing the likelihood of abstinence using MI versus control condition. (OR=1.45, 95%; Confidence Interval [CI] = 1.14 – 1.83).[\(122\)](#)

The SR examining MI included 3 RCTs.[\(123-126\)](#) Christiansen et al. (2015)[\(124\)](#) found that MI was more effective in encouraging engagement with the tobacco quit line compared to standard tobacco cessation counseling, or simply providing referral information for individuals not motivated to quit. A study by Rogers et al. (2018)[\(126\)](#) tested motivational outreach calls to encourage VA patients. At 12 months, self-reported use of telephone counseling was significantly higher for the overall intervention group, though not for the PTSD subgroup. In contrast, McClure et al. (2014)[\(123\)](#) found no difference in pharmacotherapy use or enrollment in a health plan-sponsored tobacco cessation program across any designs included in an internet-based smoking intervention. The collective evidence indicated that using MI techniques enhances engagement with tobacco and nicotine services. Although the impact may not have been found to be overwhelming, it demonstrated a positive correlation that warrants consideration in using MI for engagement.

The Work Group systematically reviewed evidence related to this recommendation.[\(123-126\)](#) Therefore, it is categorized as *Reviewed, New-added*. MI offers benefits in promoting tobacco cessation services and supporting patients in their journey to quit tobacco or nicotine products. While it may not impose a substantial burden, it requires minimal time and effort from patients. However, individual values and preferences can vary, with some patients being unprepared or unwilling to fully engage in tobacco cessation discussions. Despite this, the strength of evidence suggests that incorporating MI as an intervention can be advantageous for certain patients, making it a valuable tool in tobacco cessation efforts. Thus, the Work Group decided on a *Weak For* recommendation.

B. Pharmacotherapy Interventions

Recommendation

2. We recommend the use of FDA-approved pharmacotherapies (e.g., bupropion sustained release, nicotine replacement therapy [NRT], and varenicline) for increasing abstinence from combustible tobacco.

Strong for | Reviewed, New-added

Discussion

A Cochrane SR of the efficacy of NRT forms licensed in the U.S. provides high quality evidence (from 133 studies) that NRT monotherapy can increase the chance of a successful quit attempt compared to placebo or no NRT.(127) Three other Cochrane SRs included: RCTs using different doses, durations, and modes of delivery of NRT (n=68 trials), antidepressants compared to placebo or active control (n=124 trials), and nicotine partial agonists (primarily varenicline) (n=68) compared to placebo or control to assist with smoking cessation from combustible tobacco. The SRs rated studies to be of fair quality overall.(128-130) The primary outcome in the three SRs was sustained abstinence, also described as smoking cessation, for at least 6 months. Some comparisons showed better efficacy in terms of abstinence versus a comparator. For example, combination NRT was more effective than NRT monotherapy, and varenicline was better than either bupropion or NRT monotherapy but was not compared to NRT combination therapy. Combining bupropion or varenicline with another drug was not more effective than monotherapy. Bupropion plus NRT or bupropion monotherapy was not different than NRT monotherapy. Additionally, four RCTs not included in any of the SRs were reviewed: Weeks et al.(varenicline + NRT lozenges vs. varenicline)(131), Oreskovic et al. (cytisinicline [cytisine] vs. varenicline)(132), Baker et al. (varenicline + NRT patch for 12 weeks or 24 weeks vs. varenicline for 12 weeks or 24 weeks)(133), and Ramon et al.(varenicline plus NRT patch vs. varenicline).(134) None of the additional trial comparisons were to placebo. Outcomes of biochemically confirmed continuous abstinence were not different between the varenicline combination groups and varenicline monotherapy. Extending the duration of therapy did not change this outcome. Four weeks of cytisinicline (cytisine) were less effective than 12 weeks of varenicline for 7-day abstinence at 24 weeks. Included studies were heterogeneous regarding patient recruitment, length of therapy, outcome measures, and biochemical validation. The strength of the evidence is moderate. When assessing combination therapies, only combination NRT therapy (patch plus short-acting NRT) was beneficial. Bupropion plus NRT was beneficial in some individual trials, but pooled analysis found insufficient evidence that bupropion plus NRT was superior to NRT alone. Pooled data for bupropion plus varenicline showed a slight advantage for the combination, but the 95% CIs included no difference, and pooled safety data favored varenicline monotherapy. Combining varenicline and NRT was not included in the Cochrane review. As noted above, individual trials found no benefit to the combination, and a recent meta-analysis found the pooled data favored the combination until a sensitivity analysis removed a trial at high risk for bias(135), then there was no difference in outcomes. The benefits of tobacco cessation include decreased exposure to carcinogens, reduced risk of diseases such as cancers, and improvement in overall health. Undesirable outcomes included behavioral reactions/cravings and adverse effects of medications during treatment. Across randomized controlled studies of NRT (patch, gum, or lozenge

monotherapy or patch plus gum or lozenge in combination therapy), nicotine receptor partial agonists (primarily varenicline) and antidepressants (primarily bupropion), the desirable benefits of pharmacologic intervention for improving abstinence rates from combustible tobacco and nicotine outweigh any undesirable outcomes.

Patient values identified were the desire to stop smoking combustible tobacco, the health benefits of tobacco cessation, and the financial benefits of no longer needing to purchase combustible tobacco. There will be differences in equity between the DOD and VA regarding copays for beneficiaries. In DOD, there is currently no coverage for tobacco cessation medications for beneficiaries over 65 years of age. In VA, copays can vary depending on the rating of service-connected disability.

The Work Group systematically reviewed evidence related to this recommendation.[\(128-130\)](#) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was Moderate. The body of evidence had some limitations, including heterogeneity in patient recruitment strategies, length of therapy, reported outcomes, validation of abstinence, risk for imprecision in some comparisons with wide CIs, and some bias. The benefits of FDA-approved pharmacotherapies for improving abstinence from combustible tobacco and nicotine outweighed the potential harms of adverse effects. Thus, the Work Group decided upon a *Strong for* recommendation.

Recommendation

3. For patients using nicotine replacement therapy (NRT), we recommend combination therapy (e.g., patch and short-acting NRT) over single NRT products for increasing abstinence from combustible tobacco.

Strong for | Reviewed, New-added

Discussion

From the SR by Theodolou et al. 2023[\(128\)](#), there were 16 trials evaluating combination NRT (nicotine patch plus a short-acting form of NRT, i.e., gum or lozenge) versus NRT monotherapy that provided high certainty for higher abstinence rates using combination therapy. There was a moderate level of certainty of a dose-response relationship of patch dosage with doses of 21mg/24 hours or higher, resulting in more treatment success than 14/15mg per 24 hours. There were low levels of evidence for the duration of combination NRT use.

Patient values identified were the desire to stop smoking combustible tobacco, the health benefits of tobacco cessation, and the financial benefits of no longer needing to purchase combustible tobacco. There will be differences in equity between the DOD and VA regarding copays for beneficiaries. In DOD, there is currently no coverage for tobacco cessation products for beneficiaries over 65 years of age. In VA, copays can vary depending on the rating of service-connected disability.

The Work Group systematically reviewed evidence for this recommendation from Theodoulou et al. 2023.[\(128\)](#) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was moderate. The body of evidence had some

limitations, including risk of bias, but no serious risks of inconsistency, indirectness, or imprecision. There is a risk for imprecision (low number of events and wide CIs) regarding patch dosing. The benefits of recommending combination NRT therapy when NRT is utilized for smoking cessation outweigh the potential harm of adverse events, which are small. Thus, the Work Group decided upon a *Strong for* recommendation.

Recommendation

4. For patients receiving a single medication, we recommend varenicline over other monotherapies (e.g., bupropion sustained release; single-agent nicotine replacement therapy [NRT]) for increasing abstinence from combustible tobacco.

Strong for | Reviewed, New-added

Discussion

Data were derived from an SR by Livingstone-Banks et al. 2023 ([130](#)) of 11 RCTs of varenicline versus NRT monotherapy and an SR by Hajizedah et al. 2023 ([129](#)) of 9 randomized trials of bupropion versus varenicline. Varenicline increased abstinence rates compared to NRT monotherapy or bupropion monotherapy with a high level of certainty. They did not find a difference in quit rates between varenicline and combination NRT. There were limitations due to risk of bias and a low level of certainty with regards to the reporting of a few serious adverse events due to imprecision of the studies. There were no data on neuropsychiatric adverse events.

Patient values identified included the desire to quit, improve their health, and reduce financial burden related to the purchase of combustible tobacco products. The EAGLES trial assessed the use of varenicline in patients with baseline psychiatric illness, comparing varenicline, bupropion, and nicotine patch in participants who smoke tobacco. ([136](#)) This trial found no significant increase in neuropsychiatric events attributed to varenicline compared to bupropion, NRT patch, or placebo. There will be differences in equity between the DOD and VA regarding copays for beneficiaries. In DOD, there is currently no coverage for tobacco cessation products for beneficiaries over 65 years of age. In VA, copays can vary depending on the rating of service-connected disability.

Another nicotine receptor partial agonist for smoking cessation included in the SR was cytisinicline (cytisine). While cytisinicline (cytisine) was superior to placebo for smoking cessation in the Livingstone-Banks 2023 SR ([130](#)), it was less effective than varenicline at 4 weeks in another randomized trial. ([132](#)) However, cytisinicline (cytisine) is not yet available in the U.S., and the clinical trials were of short duration.

The Work Group systematically reviewed evidence related to this recommendation from Livingstone-Banks et al. 2023. ([129,130,132](#)) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was moderate. The body of evidence had some limitations, including risk of bias. The benefits of the use of varenicline over NRT monotherapy for improving abstinence rates outweighs the potential harm of neuropsychiatric adverse events. These events were not increased with varenicline over other monotherapies for smoking cessation as reported in the EAGLES trial. Non-neuropsychiatric

adverse effects of mild to moderate nausea and vivid dreams/sleep disturbance may affect adherence to varenicline. Thus, the Work Group decided upon a *Strong for* recommendation.

Recommendation

5. In patients using bupropion sustained release, we suggest extending use beyond 12 weeks to maintain abstinence from combustible tobacco.

Weak for | Reviewed, New-added

Discussion

Based on 2 RCTs in 1 SR(137), the evidence indicates that extended duration (>12 weeks) bupropion therapy is more effective at increasing abstinence rates than standard duration (12 weeks) bupropion therapy. In Hays et al. (2001)(138) the point prevalence of smoking abstinence was significantly higher in the bupropion group than in the placebo group at the end of week 52. In Croghan (2007)(139), 141 people who confirmed biochemical abstinence at 3 months were randomized to extended-duration treatment with bupropion vs. placebo. Bupropion showed improved rates of abstinence over placebo at 5 months; however, there was no difference between 6 and 15 months when compared to placebo.

Variations in patient preferences include possible medication side effects, potential behavioral health stigma associated with bupropion, and lab monitoring requirements that may increase the need for in-person visits. Copayments for bupropion may vary depending on a patient's health care enrollment and available coverage. When considering the balance of desirable versus undesirable effects, benefits slightly outweigh harms. Bupropion was the only pharmacotherapy with evidence supporting the superiority of extended duration therapy over standard duration therapy.

Overall, the evidence comparing the duration of pharmacotherapy for reduced tobacco use and sustained abstinence is mixed and varies depending on the type of intervention and outcomes assessed. The overall strength of evidence for the outcomes assessed in the reviews comparing implementation of extended duration treatment with bupropion for reduced tobacco use and sustained abstinence was rated as moderate. The comparison of extended-duration bupropion versus standard-duration bupropion had the strongest evidence with the abstinence outcome, rated as moderate strength.

The Work Group systematically reviewed evidence related to this recommendation identified through the systematic evidence review.(137) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was moderate. The body of evidence had some limitations, including defining the optimal duration of bupropion. The benefits of extended-duration bupropion to maintain abstinence in tobacco cessation slightly outweigh the potential harm. Patient values and preferences had some variation because of fear of side effects, stigma of using the medication, and potential need for baseline laboratory evaluation, which led to a *Weak for* recommendation.

Recommendation

6. There is insufficient evidence to recommend for or against the extended use of varenicline or nicotine replacement therapy beyond standard duration of therapy (12 weeks) to achieve abstinence from combustible tobacco.

Neither for nor against | Reviewed, New-added

Discussion

There is insufficient evidence to recommend for or against the use of varenicline or NRT beyond standard duration of therapy (12 weeks) to reduce tobacco use and improve sustained abstinence. Evidence from 6 RCTs in 2 SRs ([130,137](#)) revealed no differences in abstinence rates between standard duration varenicline therapy and extended duration (>12 weeks) varenicline therapy. In the review of evidence from 13 RCTs in 2 SRs ([128,137](#)) no differences in abstinence rates were found between standard duration nicotine patch therapy and extended duration (>12 weeks) nicotine patch therapy. Evidence from 5 RCTs in 1 SR ([128](#)) found no difference in serious adverse events between standard duration nicotine patch therapy and extended duration nicotine patch therapy. Evidence from 2 RCTs in 1 SR ([128](#)) found no difference in abstinence rates between standard duration combination NRT therapy and extended duration combination NRT therapy. Evidence from 3 RCTs in 1 SR ([128](#)) found no difference in serious adverse events between standard duration combination NRT therapy and extended duration combination NRT therapy. Only one RCT ([140](#)) found that extended combination NRT therapy (24 vs. 8 weeks) was beneficial; however, the evidence is insufficient to support a recommendation.

Not enough evidence exists to assess both benefits and/or harms/burden from extended medication therapy. Therefore, we determined benefits and harms/burden are balanced.

Patient values and preferences varied. Patients differed in their desire to quit smoking as well as their level of interest in the health and financial benefits of smoking cessation. Copayments for bupropion may vary depending on a patient's health care enrollment and available coverage.

The Work Group systematically reviewed evidence related to this recommendation ([128,130,137](#)) identified through the systematic evidence review. Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was low. The body of evidence had some limitations, including the definition of extended duration and optimal treatment. There is not enough evidence to support whether the benefits of extended duration therapy outweigh harms or vice versa, and thus, were found to be balanced. Patient values and preferences varied somewhat due to factors such as patients' desire to stop smoking as well as their interests in the health and financial benefits that smoking cessation would bring. Thus, the Work Group decided upon a *Neither for nor against* recommendation.

Recommendation

7. We suggest using varenicline or nicotine replacement therapy (NRT) for increasing abstinence from electronic nicotine delivery systems (ENDS).

Weak for | Reviewed, New-added

Discussion

The quality of the evidence for using varenicline to achieve abstinence from ENDS is very low based on 3 RCTs in 1 SR discussed by Butler et al. 2025.(141) There were serious imprecisions, wide CIs, and small sample sizes, leading to low evidence for varenicline use. The SR by Butler et al. (2025) anticipated that absolute effects of ENDS abstinence were higher in patients using varenicline when compared to control at six months or longer, but not statistically significant (24 per 100 for placebo vs. 49 per 100 for varenicline, RR [risk ratio]: 2.60; 95% CI: 0.11 to 62.16). However, the relative effect for abstinence from ENDS from the SR favored varenicline over control (RR: 2.00, 1.09 to 3.68).(141) From the SR, only Caponetto et al. (2023) reported 1 SAE (serious adverse event) for the varenicline arm. No other SAEs were reported in the other 2 RCTs.(142)

As for NRT, the quality of the evidence was very low from 1 SR with 2 RCTs discussed by Butler et al. 2025. There were serious imprecisions, wide CIs, and small sample sizes, leading to very low evidence for NRT use. The SR by Butler et al. (2025) showed no differences in abstinence rates in patients using NRT vs. control. The 2 RCTs in the SR (Butler et al. 2025) did not clearly define combination NRT as a long-acting nicotine patch plus short-acting NRT (e.g. lozenges, gum, nasal spray).(141)

Based on another small RCT, which was not included in the SR, Palmer et al. 2022(143) compared combination NRT (patch plus 4mg lozenges) and self-help booklet vs. the control arm which was a quitline referral for 28-day abstinence rates. Palmer et al. (2022) had a small sample size (18 in treatment and 12 in control arm). At the end of treatment, Palmer et al. (2022) reported 6/18 (33.3 %) in the treatment arm were abstinent compared to 0 in the control arm ($p=0.057$), suggesting utility of NRT for ENDS cessation.(143)

Evins et al. (2025)(144) conducted a 3 arm RCT utilizing double-blind varenicline vs. placebo in a youth sample (16 to 25 years of age) utilizing ENDS. Participants were randomized to 12 weeks of varenicline, weekly counseling, and referral to text messaging support ($n = 88$); identical placebo, weekly counseling, and referral to text messaging ($n = 87$); or enhanced usual care (referral to text messaging only) ($n = 86$). Continuous abstinence rates for varenicline versus placebo were 51% vs. 14% for weeks 9 through 12 (aOR: 6.5 [95% CI: 3.0-14.1]; $P < .001$) and 28% vs. 7% during weeks 9 through 24 (aOR: 6.0 [95% CI: 2.1-16.9]; $P < .001$). Varenicline had significantly higher continuous abstinence rates when compared with enhanced usual care. This study is of relevance because it was conducted in the U.S. and captures the age group with highest rates of ENDS, consistent with findings for active military.(144)

The benefits of varenicline or NRT outweighed the potential harm given the possible harms of ENDS. Patient values and preferences may vary, as some patients may not be ready to quit.

The Work Group systematically reviewed evidence related to this recommendation.(141) Therefore, it is categorized as *Reviewed, New-added*. The quality of the evidence was very low overall. The body of evidence had some limitations, including lack of RCTs, small sample sizes, and inclusion of confounding variables, particularly for NRT vs. placebo for ENDS cessation.(143-

[145](#)) Thus, the Work Group decided upon a *Weak for* recommendation with regard to the use of varenicline or NRT for promoting abstinence from ENDS.

Recommendation

8. We suggest using nicotine replacement therapy (NRT) for increasing abstinence from smokeless tobacco.

Weak for | Reviewed, New-added

Discussion

Data from 1 SR by Livingstone-Banks et al. (2025) consisted of 11 RCTs ([146](#)) evaluating NRT vs. placebo for increasing abstinence from smokeless tobacco. There were serious imprecisions with lower CIs close to no difference, leading to low evidence for NRT use. Livingstone-Banks et al. (2025) compared rates of abstinence of ≥ 6 months from smokeless tobacco for NRT vs. placebo and demonstrated increased abstinence in the NRT arm vs. placebo (RR: 1.18; 95% CI: 1.05 to 1.33).([146](#))

The studies were inconsistent in design as some only assessed monotherapy NRT with short-acting nicotine lozenges or gum ([147-149](#)), monotherapy with nicotine patch ([150](#)), or off-label dosages of high-dose nicotine patch.([151,152](#)) Despite some inconsistencies, monotherapy NRT demonstrated improved abstinence. Combination NRT was not evaluated, and therefore, there was no data to support the use of combination NRT for cessation of smokeless tobacco.

Combination NRT is considered a gold standard of treatment (see Recommendations 2-4), and more evidence is needed for cessation from smokeless tobacco.

The benefits of NRT outweigh the harms associated with continued smokeless tobacco use. Patient values and preferences varied, as some patients may prefer not to use NRT. The Work Group systematically reviewed evidence related to this recommendation.([146](#)) Therefore, it is categorized as *Reviewed, New-added*. The quality of the evidence was low overall. The body of evidence had limitations, including several studies with small sample sizes in the SR, inclusion of confounding variables, and inconsistent comparison groups.([147-150](#)). Thus, the Work Group decided upon a *Weak for* recommendation with regard to the use of NRT for use of abstinence from smokeless tobacco.

Recommendation

9. We recommend using varenicline for increasing abstinence from smokeless tobacco.

Strong for | Reviewed, New-added

Discussion

An SR ([146](#)) evaluated the efficacy of varenicline for improving abstinence from smokeless tobacco. Evidence from two RCTs ([153,154](#)) totaling 508 participants who were followed for at least 6 months was rated as moderate strength. The combined data from the two trials favored varenicline over placebo for abstinence from smokeless tobacco. The pooled RR for abstinence was 1.35 (95% CI: 1.08 to 1.68), indicating that participants receiving varenicline were significantly more likely to quit smokeless tobacco than those receiving a placebo.

Patients who use smokeless tobacco products are at increased risk of tobacco-related illnesses and associated morbidity and mortality. The benefits of cessation of smokeless tobacco include reduced risk of oral malignancies, dental deterioration, gum disease, and adverse cardiovascular events effects. Comparatively, the risk of taking varenicline is low. There is expected to be some variation in the patient's preferences relative to the desire to stop using smokeless tobacco. Other considerations include the patient's level of interest in the health and financial benefits of quitting smokeless tobacco.

The Work Group systematically reviewed evidence related to the use of varenicline for helping patients quit smokeless tobacco.(146) The recommendation is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was moderate. The evidence was from a single SR (146) which included two RCTs with a total of 508 participants. The evidence did not have serious limitations, inconsistencies, or indirectness. For varenicline, the benefits of improved abstinence outweighed the harms (potential for adverse effects from the medication). Patient preferences varied somewhat. Thus, the Work Group decided upon a *Strong for* recommendation for the use of varenicline to improve abstinence from smokeless tobacco.

Recommendation

10. We suggest varenicline be started prior to surgery to assist patients in quitting tobacco use.

Weak for | Reviewed, New-added

11. There is insufficient evidence to recommend for or against the use of nicotine replacement therapy (NRT) or bupropion for tobacco cessation in the perioperative period.

Neither for nor against | Reviewed, New-added

Discussion

Two SRs examined whether pharmacotherapy is safe and effective before and during surgery (in the perioperative period). One review (3) was of good quality and is the basis for these recommendations. The other (6) was judged to be poor quality and did not contribute to the recommendations. For varenicline, the strength of evidence was moderate and based on one RCT (155) that included 286 participants in Toronto, Ontario, Canada, who were scheduled for elective ambulatory or inpatient general surgical, orthopedic, urologic, plastic, gynecologic, ophthalmologic, or neurosurgical procedures. Participants were randomized to either varenicline or placebo for 12 weeks, starting 1 week before surgery. All participants received two 15-min standardized counseling sessions from the research coordinators. There was a trend towards higher abstinence in the varenicline group at the time of surgery (RR: 1.49, 95% CI: 0.98-2.26) and varenicline did produce higher abstinence rates at 12-month follow-up (RR: 1.45, 95% CI: 1.01-2.07). There was no effect of varenicline on the outcomes of any postoperative complications (occurred in 13% of participants [RR: 0.94, 95% CI: 0.52-1.72]) or of postoperative wound complications (occurred in 5% of participants [RR: 0.89, 95% CI: 0.32-2.48]).

In the review by Thomsen et al. (2014), the strength of evidence was low for NRT, so no recommendation was made.(3) The only study of nicotine replacement included was a pilot trial

(156)(strength of evidence – low) with 46 participants, who were randomized to nicotine lozenges or placebo. No effect was found on abstinence at the time of surgery. No studies of bupropion were included in the review by Thomsen et al.(2014).(3) One study of bupropion (47 participants) was identified, but it was excluded because there were high levels of drop-out in each group and only a small number of participants underwent surgery within the six-month study period.

Given the long-term effect on abstinence, the benefits of using varenicline in the perioperative period outweigh the risks. There is likely some variation in patient values and preferences regarding its use. Getting patients to enroll in tobacco use cessation programs prior to surgery can be difficult at times, although patients may be more motivated if they perceive it as being helpful to their surgery.

The Work Group systematically reviewed evidence related to the *Weak for* recommendation for varenicline and *Neither for nor against* nicotine replacement, which were from Thomsen et al. (2014).(3) Therefore, both recommendations are categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was moderate for varenicline and low for NRT. The body of evidence had some limitations, including being from a single SR (3) which included one study of moderate sample size for varenicline (155)(286 participants) and one study of a small sample size for nicotine replacement (156)(46 participants). For varenicline, the benefits (increased abstinence at 12 months) outweighed the harms (potential for adverse effects from the medication). Patient preferences were felt to vary somewhat. For nicotine replacement, the benefits and harms were felt to be balanced, and there was also felt to be some variation in patient preferences. Thus, the Work Group decided upon a *Weak for* recommendation for the use of varenicline and a *Neither for nor against* recommendation for the use of NRT.

C. Alternate Tobacco Products

Recommendation

12. We suggest against electronic nicotine delivery systems (ENDS) products for improving abstinence from tobacco and nicotine products. (ENDS is classified as a tobacco product and is not FDA approved for any use).

Weak against | Reviewed, New-added

Discussion

Data from 1 SR by Lindson et al. 2024(157) included 7 RCTs that did not directly address abstinence from all tobacco and nicotine products as a primary endpoint, instead looking at abstinence from just cigarettes. From the Lindson et al. 2024 SR(157), there were 2 RCTs (158,159) that reported on abstinence from all tobacco and nicotine products as secondary outcomes. Myers Smith et al. (2022) reported that none of the participants that abstained from smoking combustible cigarettes were using NRT (n=2) vs. 84.6% (n=11) were using ENDS at 6 months.(159) Hajek et al. (2019) reported similar results, with 9% (n=4) of the participants that abstained from smoking combustible cigarettes using NRT vs. 80% (n=63) were using ENDS at 52 weeks.(158) Both studies had serious imprecisions, and were not comparative effectiveness

trials (actual medication usage was not clearly outlined), leading to very low evidence. In addition, the SR (157) has limited applicability to VA/DOD populations as they were conducted outside the U.S. in countries where the regulation of ENDS products is different.

Overall, the known and unknown harms of ENDS outweigh the benefits. ENDS deliver high levels of nicotine and have been demonstrated to lead to nicotine dependence.(160) The vapor inhaled from ENDS devices contains a number of toxic chemicals and heavy metals that have been demonstrated to cause health harms.(160) Long-term effects of ENDS use are largely unknown; however, pre-clinical studies suggest that ENDS may cause cellular damage that may increase an individual's risk for cancer and cardiovascular disease.(160) The potential dose-dependent harm of ENDS is of concern, especially in the U.S., where diverse ENDS products are used with limited regulation (unknown content, unknown nicotine amount, etc.). ENDS delivers levels of nicotine considered unsafe during pregnancy due to possible toxic, addictive effects and prolonged exposure of nicotine.(160) ENDS may result in acute respiratory and cardiovascular effects, lung injury, increased risk of depression, may contain cancer-causing chemicals, may cause cellular damage (oxidative stress, increased inflammation, and lead to cell death), may increase risk of seizures, may impact oral health and other health considerations like poor subjective sleep quality.(160-167) More recently, it has also been linked to increased risk of COPD and lung cancer.(168-170) Although there may be patient preference to use ENDS for cessation from all tobacco and nicotine products, the lack of efficacy as well as the known and unknown harms of ENDS do not allow for recommending this to patients.

Outside of the evidence review window, Quach et al. (2025)(171) examined the association of ENDS use with smoking cessation utilizing the Population Assessment of Tobacco and Health (PATH) cohort at wave 4 (2017) with follow-up at wave 6 (2021). Quach et al. (2025) used the PATH cohort data and conducted a national population-based sample utilizing propensity score matching. Quach et al. (2025) reported that abstinence from cigarettes and ENDS were higher in the non-ENDS use group vs. non-daily ENDS use or daily ENDS use groups, respectively (no ENDS use 11.7% [95% CI: 10.5-12.8], nondaily ENDS use 7.1% [4.9-9.3], daily ENDS use 7.1% [3.2-11]). This suggests greater utility of FDA approved pharmacotherapy for cessation from all products. Utilizing propensity score matching and the datasets from the U.S. PATH wave 4 and follow-up at wave 6 (Quach et al., 2025):

1) *Smoking cessation* was 4.1% lower in the group that used ENDS daily vs. the group that did not use ENDS (95% CI: -11.9 to 3.6 percentage points; P = .30) and 5.3% lower in the group that used ENDS non-daily vs. group that did not use ENDS (95% CI: -9.1 to -1.5 percentage points; P = .01).

2) *Abstinence from both cigarettes and ENDS* was 14.7% lower in the group that used ENDS daily vs. group that did not use ENDS (95% CI: -20.2 to -9.2 percentage points; P < .001) and 7.2% lower in the group that used ENDS non-daily vs. group that did not use ENDS (95% CI: -10.7 to -3.8 percentage points; P < .001).

Additionally, ENDS products are not regulated in content and amount in the U.S., compared to the UK (United Kingdom) and EU (European Union) from the SR. Hence, the products in the United

States have higher nicotine content, greater potential for dependence, and risk of dual use of ENDS and combustible tobacco. Dual users (ENDS and cigarettes), especially those with high levels of cigarettes per day, may have higher exposure to toxins than individuals who exclusively smoke cigarettes.(172) Lastly, ENDS are not FDA-approved for any use and are regulated under the Tobacco Control Act in the U.S. Similarly, these are not approved as pharmacotherapy in the UK/EU, but regulated under similar regulatory programs, the Tobacco and Related Products Regulations 2016 in the UK and the Tobacco Products Directive in the EU.(173,174)

The Work Group systematically reviewed evidence related to this recommendation.(157,158) (159) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was very low. The body of evidence had major limitations including a lack of comparative effectiveness trials in the literature review, lack of ENDS safety data, lack of verified duration of use/nicotine content, and lack of studies conducted in the U.S. It was also noted that ENDS use may reduce tobacco cessation or maintain nicotine dependence and has health harms of indeterminate severity. Thus, the Work Group decided upon a *Weak against* recommendation for ENDS products for improving abstinence from all tobacco and nicotine products.

D. Behavioral Counseling Interventions

Recommendation

13. We recommend more intensive behavioral counseling (at least four encounters) as compared to less intensive counseling to increase abstinence from tobacco and nicotine products.

Strong for | Reviewed, New-added

Discussion

An SR by Rasmussen et al. (2022)(175) with 17 RCTs of intensive tobacco cessation interventions (ITCI) versus shorter interventions (SIs) found greater long-term abstinence outcomes for participants receiving ITCI. The core criteria for ITCI was defined to be consistent with recommendations for evidence-based treatment for tobacco use and dependence, including individual or group treatment consisting of 1) recognizing dangerous situations, skills for coping with temptations to use tobacco and basic information about tobacco dependence and the cessation process; 2) motivational interviewing or behavioral counseling; 3) medication, and 4) at least four in-person sessions each lasting >10 minutes in duration, compared to SIs defined as “delivered in-person and/or by telephone with a maximum of three in persons sessions and 1 hour in total.”

Treatment duration in the RCTs varied widely and ranged from 13–180 minutes per session and consisted of 4 to 20 sessions. However, the core criteria to identify an intensive intervention is: ≥ 4 scheduled in-person meetings, each >10 minutes, including patient education, using continuous abstinence outcomes assessed at 6- and 12-month follow-up, respectively. The SR found evidence for significantly greater continuous abstinence (approximately double) at long-term follow-up for patients given ITCI when compared to those who received SIs.

Additionally, a meta-analysis by Hartmann-Boyce et al. (2019)([176](#)) reviewed the effectiveness of behavioral support for individuals using pharmacotherapy. The analysis showed that increased frequency of behavioral counseling improved the likelihood of cessation by 10–20%.

Behavioral support improved quit rates compared to pharmacotherapy alone. Including pooled data from 65 trials (n=23,331): RR = 1.15 (95% CI: 1.08–1.22) showed that quit rates increased from ~17% to ~20% with added support (absolute increase: 2–3%). Consistent benefits were found across all types of pharmacotherapies and support delivery (e.g., phone, in-person).

The benefits of ITCI outweigh the harms. Although ITCI involves a higher time commitment for both patients and providers, the benefits of sustained abstinence outweigh the associated burden. Patients motivated to quit tobacco express a strong preference for more intensive interventions and tend to exhibit lower attrition rates. We recommend further studies comparing ITCI with other intervention forms for efficacy and time/resource commitment.

Limitations included some heterogeneity across studies and imprecision in defining intensive treatment in the Hartmann-Boyce et al. (2019) review.([176](#)) Nonetheless, the consistent findings in favor of ITCI, patient preference for higher-intensity programs, and the long-term health benefits supported a *Strong for* recommendation.

The Work Group systematically reviewed evidence related to this recommendation.([175,176](#)) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was moderate. The body of evidence had some limitations, including Hartman-Boyce et al. (2019)([176](#)) which had a lack of precision in defining intensive treatment and substantial heterogeneity for some of the outcomes examined. The benefits of sustained abstinence outweighed the potential harm of increased time commitment for both the ITCI provider and the patient. Therefore, there is high-certainty evidence that behavioral support enhances the effectiveness of smoking cessation medications. Even modest gains (10–20% increased likelihood of quitting) are clinically meaningful. Thus, the Work Group decided upon a *Strong for* recommendation.

Recommendation

14. We suggest using text messaging (SMS) programs to increase abstinence from tobacco and nicotine products.

Weak for | Reviewed, New-added

Discussion

Text message (or short message service, SMS) programs provide automated, tailored messages to support tobacco cessation based on frameworks such as cognitive behavioral therapy (CBT), acceptance and commitment therapy (ACT), and social cognitive theory.

Text message programs are effective as a standalone intervention in increasing abstinence from tobacco and nicotine products in the general adult population, with an overall low strength of evidence. An SR of 39 RCTs by Fang et al. (2023)([177](#)) found that text or app messaging interventions increased abstinence from cigarette smoking compared to a control (i.e., unrelated text messages or non-electronic self-help smoking cessation material) at 3 and 6 months in

adults. A meta-analysis of 13 RCTs by Whittaker et al. (2019)([178](#)) found that text message interventions significantly increased abstinence at 6-12 months compared to a placebo (i.e., unrelated text messages) or minimal support, such as written or online smoking cessation materials.([178](#))

Saksiri et al. (2024)([179](#)) conducted an RCT to test a 45-day text message intervention in adults who smoke in Thailand, finding an increase in biochemically verified abstinence at 18 weeks. Graham et al. (2022) conducted an RCT testing a tailored text message program for ENDS cessation and found a significant increase in rates of abstinence at 7 months from both ENDS and combustible tobacco products with the text message intervention.([180](#)) Attrition rates varied, with loss-to-follow-up in individual studies ranging from less than 5% to over 50%.([177-180](#)) Fang et al. (2023)([177](#)) reported that 33% of studies reviewed had an attrition rate greater than 20%. Overall, the findings had a low strength of evidence due to a lack of blinding and a high rate of loss-to-follow-up.

Text message interventions may be effective at increasing abstinence when used together with other evidence-based tobacco use treatments. Whittaker et al. (2019)([178](#)) conducted a meta-analysis of 4 RCTs that added a text message intervention to another tobacco use treatment (behavioral counseling alone or behavioral counseling and pharmacotherapy) compared to the tobacco use treatment alone. Adding the text message intervention significantly increased abstinence after 6 months compared to the tobacco use treatment alone.([178](#)) Blomqvist et al. (2023)([181](#)) conducted an RCT in Sweden and found a significant increase in prolonged abstinence at 6 months when a 12-week text message intervention was provided in addition to a smoking cessation referral to a national helpline or health care clinic. Overall strength of evidence was low due to risk of bias, including lack of blinding and a high loss-to-follow-up.

Several studies have also demonstrated that text message interventions may support intermediate steps toward successful abstinence. Graham et al. (2022)([180](#)) and Saksiri et al. (2024)([179](#)) favored text messaging over a minimal control in supporting reduced use of ENDS and cigarettes, respectively, with very low strength of evidence. There are no known harms or adverse events that have been demonstrated with the use of text message interventions.

The benefits of text message interventions outweigh the harms. Text message interventions can be tailored and automated to deliver an effective intervention at a low cost. Text messages are delivered directly to an individual on any mobile phone or smartphone, allowing a patient to receive a convenient behavioral intervention without needing to travel to a clinic or even set aside time for an appointment. Mobile device ownership and unlimited text messaging plans may be a potential barrier for some patients, however surveys suggest that over 98% of U.S. adults now own some type of mobile phone, and over 91% own a smartphone.([182](#))

Most patients may be willing to use a text message intervention; however, individual patient preferences may vary. A 2024 survey found that 79% of VHA enrollees reported that they either already use or would be at least somewhat willing to receive health-related text messages on a mobile device.([57](#)) And while not included in our CPG evidence review, a qualitative study of 36 users of the SmokefreeTXT text message program found high acceptability and perceived utility of the program, although several individuals reported cravings to smoke or use tobacco in response

to the program messages.(183) Text message programs may not be effective for all individuals; a subgroup analysis of adults with mental health conditions and pregnant persons who smoke conducted by Fang et al. (2023) did not find an increase in abstinence from smoking among study participants using a messaging program in either population.(177)

Participants in the VA/DOD Patient Focus Group emphasized the need for providers to accommodate patient preferences in developing personalized treatment plans. Tailored text message interventions can provide an additional effective treatment option for patients to consider. Behavioral interventions for tobacco use treatment are less commonly utilized than pharmacotherapy treatments, but text message programs are convenient and can increase patient access to a behavioral treatment with minimal commitment.

The Work Group systematically reviewed evidence related to this recommendation from Fang et al. (2023)(177); Whittaker et al. (2019)(178); Graham et al. (2022)(180); Saksiri et al. (2024)(179); and Blomqvist et al. (2023).(181) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was low. The body of evidence had some limitations, including potential bias due to randomization, blinding, and missing outcomes. The benefits of text message interventions on improving abstinence from tobacco or nicotine products outweighed the potential harm of incurring costs for text messages, or some patients reporting increased cravings when using a text message program. Patient values and preferences varied somewhat because some patients may prefer not to use text message programs for treatment. Thus, the Work Group decided upon a *Weak for* recommendation.

Recommendation

15. There is insufficient evidence to recommend any specific behavioral counseling intervention over standard cognitive behavior therapy for tobacco cessation.

Neither for nor against | Reviewed, New-added

Discussion

Our evidence review did not find comparative effectiveness studies that met the inclusion criteria that would allow us to recommend one behavioral treatment intervention over another. The key question we wanted to examine was if there was a specific behavioral treatment approach that had the best tobacco cessation outcomes. However, as CBT was often the comparator, we have no evidence that would support recommending a specific behavioral counseling intervention over standard CBT.

Regarding well-established evidence-based practices, we reviewed two RCTs. Audrain-McGovern et al. (2023)(184) had moderate strength of evidence examining Behavioral Activation versus standard CBT for tobacco cessation; there were no statistically significant differences in tobacco cessation outcomes. McClure et al. (2020)(185) examined group-based ACT versus group-based CBT; the results favored CBT, but overall had a low strength of evidence. The lack of evidence demonstrated that other specific behavioral counseling interventions are more effective than CBT resulted in the above recommendation. Additionally, we reviewed several other studies(176,186,187), in which the modalities examined were novel approaches and were primarily pilot studies with small sample sizes. These studies examined interventions such as

Partner Assistance Cessation Treatment (186), and positive psychotherapy for tobacco cessation (176); these studies had low or very low strength of evidence primarily due to risk of bias and imprecision.

The Work Group systematically reviewed evidence related to this recommendation.(176,184,185,187) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was low. The body of evidence had some limitations, including a small sample size and imprecision.(176,184) The benefits of offering multiple modalities of counseling for tobacco cessation are balanced with the potential harms of increased provider and patient time commitment. Patient values and preferences varied somewhat because some patients may prefer a certain type of behavioral treatment. Thus, the Work Group decided upon a *Neither for nor against* recommendation.

Recommendation

16. There is insufficient evidence to recommend for or against adding lifestyle interventions (e.g., diet, exercise) to behavioral counseling for tobacco cessation.

Neither for nor against | Reviewed, New-added

Discussion

The strength of evidence for the studies reviewed (including 2 SRs and 1 RCT) was very low.(188-190) While Garcia-Fernandez et al. (2023) and Ussher et al. (2014) were SRs, Williams et al. (2020) was an RCT; all studies looked at weight/exercise interventions in addition to standard tobacco cessation counseling. Overall results from the two SRs conclude no statistically significant differences between exercise interventions and control arms regarding either abstinence rates or weight change. Of note, there was significant variance across the studies that were reviewed in each of the SRs (28 studies in Garcia-Fernandez(190); 24 studies in Ussher et al. (2014)(188)). For example, some studies recruited individuals who were interested in losing weight, while others relied only on patient characteristics (i.e., body mass index, sedentary lifestyle, cardiovascular risk, female sex, symptoms of depression) for inclusion in the study. Exercise interventions also varied widely, from walking to weightlifting to cycling. The RCT from Williams et al. (2020)(177,189), only examined a very specific population of African American women, making the data difficult to generalize. In that study, women were randomized to either a control arm (NRT + 12-weeks phone-based counseling) or an exercise intervention arm (control + 12 weeks of structured exercise intervention). Of note, the mean number of telephone sessions completed was 4.8 (of 12 possible), and the mean number of exercise sessions completed was 3.4 (of 36 possible). These variations, both within and between studies, made it challenging to compare results across studies. Finally, due to very high attrition from the studies, it was difficult to know the true effectiveness of the interventions (i.e., did participants stop using tobacco but dropped out due to struggles with the added components?).

Although this review focused on tobacco cessation as a specific outcome, it is important to note that Zhou et al. (2013) found that exercise helped patients manage cravings; however, it did not have a positive impact on overall abstinence. Thus, exercise may be beneficial (191) as a craving-management strategy but does not appear to be a sufficient standalone treatment for tobacco cessation.

There were no adverse outcomes reported, but there were very high rates of attrition, which suggests increased patient burden. However, if a patient already desires to make specific behavior changes (i.e., lose weight or exercise more), the benefits of exercise would outweigh the burdens. Patient preference should be considered before adding a lifestyle intervention component to tobacco cessation counseling, as some patients are unable to perform exercises due to physical or time restrictions.

The Work Group systematically reviewed evidence related to this recommendation.(187-191) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was very low. The body of evidence had substantial limitations, including high attrition from studies and wide variation between populations and interventions utilized. The benefits of adding lifestyle interventions to tobacco cessation counseling include treatment benefits that extend beyond tobacco cessation and are balanced with the potential harm, which includes a high burden and difficulty with adherence. Patient values and preferences varied slightly because some patients may find it overwhelming to attempt concurrent lifestyle changes, while others may prefer this approach. Thus, the Work Group decided upon a *Neither for nor against* recommendation.

Recommendation

17. There is insufficient evidence to recommend either for or against smartphone apps for increasing abstinence from tobacco and nicotine products.

Neither for nor against | Reviewed, New-added

Discussion

The certainty of the evidence for using smartphone apps to promote tobacco and nicotine cessation is very low. Based on studies referenced by Whittaker et al. (2019)(178), Fang et al. (2023)(177), Jackson et al. (2024)(192), Wu et al. (2024)(193), and Rupp et al. (2024)(194), smartphone apps were used to promote smoking cessation, which included apps that provided smoking cessation progress tracking, reminders, and/or guidance via modules.

A meta-analysis by Fang et al. (2023)(177) compared utilization of a smartphone app compared to minimal non-app-based support (i.e., education on smoking cessation) or routine care and found that smartphone apps may increase abstinence at 3 months but not longer. In a Cochrane review, Whittaker et al. (2019)(178) reported that there was no evidence that smartphone apps improved rates of smoking cessation when compared to lower intensity apps or minimal non-app-based support. In a pragmatic RCT, Wu et al. (2024)(193) showed that an instant-messaging smartphone app did not result in increased cessation among participants compared to routine counseling and referral for treatment. In contrast, Jackson et al. (2024)(192) and Rupp et al. (2024)(194) found that a smartphone app may increase the rate of smoking cessation compared to routine follow-up and minimal intervention, respectively.

Many studies had limitations in sample size, study protocol standardization, low protocol completion rates, bias related to studies' data reporting, and inconsistencies in smartphone application formatting, security, and data collection/synthesis. Fang et al. (2023)(177) highlighted bias as a key concern due to missing data and result reporting. Whittaker et al. (2019)(178)

excluded data related to smartphone apps as adjunct to face-to-face or web-based programs when the interventions could not be clearly separated. Several studies, including Rupp et al. 2024 (194) and Jackson et al. (2024)(192) reported significant study attrition of 30% and 50%, respectively. Furthermore, Rupp et al. (2024)(194) had a potential conflict of interest in evaluating a proprietary app developed by their employer. Thus, the evidence that smartphone apps promote cessation was weak, with inconsistency among studies regarding control groups and study design as a standalone treatment. There was low-quality evidence to suggest that smartphone apps may be beneficial as an adjunct to counseling or medication treatment.

Key considerations were evaluated to assess the harms, benefits, and burdens of utilizing smartphone applications to increase successful abstinence from tobacco and nicotine use. Benefits identified include cost-efficient and automated technology delivery methods. This allows for increased access to care remotely. Harmful, burdensome aspects included telecommunication data servicing costs, personal health information security risks, smartphone application user friendly capabilities, and the potential to trigger tobacco use associated with smartphone application push notifications. No adverse events were indicated across all evidence-based studies evaluated.

Patient values and preferences highlighted possible technology literacy challenges, non-standardized software design, and data gathering outcomes. Some patients may choose not to use smartphone applications for other reasons. Across studies reviewed, demographic composition varied, timeline for abstinence achievement varied from 3-12 months, and the use of a smartphone application as a stand-alone or adjunct varied. Feasibility and equity varied based on social determinants of health.

The Work Group systematically reviewed evidence related to this recommendation Whittaker et al. (2019), Fang et al. (2023), Jackson et al. (2024), Wu et al. (2024), and Rupp et al. (2024).(177,178,192-194) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was very low. The body of evidence had some limitations, including high rates of attrition (192) and bias as a key concern due to missing data and result reporting.(177) The benefits of smartphone applications as stand-alone or adjunct treatment present benefits that outweigh harms/burden, with no adverse effects identified as potential harms. Patient values and preferences presented some variation due to software design and security variation, patients' technology literacy, and a preference not to use smartphone applications to support medical needs. Thus, the Work Group decided upon a *Neither for nor against* recommendation.

E. Return to Use

Recommendation

18. If patients return to tobacco use, we suggest immediate repeat treatment with pharmacotherapy and counseling.

Weak for | Reviewed, New-added

Discussion

Review of the literature did not identify any studies that addressed the efficacy of treatment for relapse after confirmed abstinence. Since there were no studies that included confirmation of abstinence, the literature search inclusion criteria were broadened to include studies comparing the effectiveness of approaches to treating relapse. This resulted in the identification of five trials that tested the effectiveness of intervention approaches (e.g., treatment switching, increasing intensity, recycling) for individuals who continued smoking after engagement with a tobacco cessation program. Three trials examined the effectiveness of recycling approaches or re-engaging patients in cessation treatment (i.e., repeat quit attempt) and provided the evidence base for this recommendation.[\(7,195,196\)](#) The overall quality of the three trials is poor to fair.

Schlam et al. (2024)[\(195\)](#) compared the effects of three post-relapse interventions. Initially, 1,154 primary care patients received cessation counseling and 8 weeks of NRT. Those who relapsed and agreed to continued intervention (N= 582) were randomized to 1) preparation to quit (encouraged to quit again one month later), 2) immediate repeat quit attempt (recycling), or 3) advice to call the state quitline. The recycling intervention resulted in higher quit rates than quitline referral (6.9% vs. 2.1%, OR = 1.8). The preparation to quit intervention did not result in significantly higher abstinence rates than quitline referral. Similarly, Klesges et al. (2023)[\(196\)](#) compared the effects of three reengagement interventions after smoking relapse among military personnel, retirees and family members (TRICARE beneficiaries). Initially, participants received four counseling sessions and free NRT. At three-month follow-up, participants (N = 134) who relapsed or never stopped and agreed to continued intervention were randomized to 1) repeat initial intervention (recycling), 2) smoking reduction intervention, or 3) choose either 1 or 2. Participants assigned to the recycling intervention had higher prolonged abstinence rates at 12 months than the smoking reduction arm (17.1% vs. 12.5%, OR = 16.4); though significant, the 95% CIs were very wide (2.5 to 107.1). Gonzales et al. (2014)[\(7\)](#) conducted a trial (N=498) evaluating the safety and efficacy of retreatment with varenicline compared to placebo among patients continuing to smoke who had previously been treated with varenicline. Abstinence rates at one year were significantly higher for the varenicline arm compared to placebo (44.6% vs. 11.7%, OR = 7.0), and there were no reported serious adverse events.

Patient preferences may vary regarding the timing of repeat treatment following an unsuccessful quit attempt. Many patients are likely highly motivated to quit and ready to quit again immediately, while others may prefer to wait before trying to quit again. The additional treatment burden experienced by patients is a potential harm; however, this is outweighed by the benefits of smoking cessation.

The Work Group systematically reviewed evidence related to this recommendation.[\(7,195,196\)](#) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was very low. The body of evidence had some limitations, including imprecision of estimates with wide CIs, a small number of studies, and the lack of confirmed abstinence prior to relapse. The benefits of smoking cessation outweighed the potential harm of treatment burden and adverse events, which were small. Patient values and preferences varied somewhat because while some patients are ready to immediately quit again others would prefer to wait before trying to quit again. Thus, the Work Group decided upon a *Weak for* recommendation.

F. Not Ready to Quit Population

Recommendation

19. In patients not ready to quit (e.g., in the next 30 days), we suggest nicotine replacement therapy (NRT) to increase quit attempts.

Weak for | Reviewed, New-added

20. In patients not ready to quit (e.g., in the next 30 days), we suggest varenicline to increase quit attempts and abstinence from tobacco and nicotine products.

Weak for | Reviewed, New-added

Discussion

One SR was conducted ([197](#)) and examined the efficacy of NRT in increasing quit attempts and improving abstinence in individuals who are not ready to quit smoking. Evidence from seven RCTs in this SR showed that there were more quit attempts in patients who were being treated with NRT versus those who received no treatment/brief intervention (RR: 1.12, 95% CI: 1.02 to 1.26). Despite this increase in quit attempts, evidence from these seven RCTs in this SR did not find a difference in abstinence rates between NRT and no treatment/brief intervention groups (RR: 1.19, 95% CI: 0.93 to 1.53). The types of NRT used in the individual RCTs varied, ranging from nicotine patches to nicotine gum and lozenges. The strength of evidence for this SR was of very low quality. This rating is primarily due to unclear blinding and detection bias, as well as unreported randomization and allocation concealment procedures. There was also limited reporting of risk of bias for included RCTs. Additionally, there was imprecision in the effect sizes for several outcomes due to small sample size or wide CIs.

Our analysis only assessed evidence from SRs or RCTs published on or after January 1, 2014, to December 10, 2024. However, there was a smaller SR ([198](#)) that was performed earlier in 2009 and compared NRT to placebo. This SR included 7 RCTs and showed an increase in abstinence in those patients who were treated with NRT (RR: 2.06, 95% CI: 1.34 to 3.15).

The long-term effects of continued tobacco use carry an increased risk of tobacco-related illnesses and their associated morbidity and mortality. There are many health benefits of tobacco cessation. The risks of tobacco cessation medications, and specifically NRT, are low. Therefore, the benefits of treatment leading to tobacco cessation far outweigh the associated risks of medical therapy with NRT. The potential for patients making more cessation attempts is a desirable goal in the management of patients being treated for tobacco cessation. This is potentially beneficial even in those patients who are not ready to stop smoking. Additional studies are needed in patients not ready to quit smoking, evaluating the influence of NRT on increasing abstinence. Since the patients in these studies were not ready to quit, additional research should evaluate their willingness to use NRT for a non-cessation goal such as smoking reduction. Also, despite evidence for its safety ([197](#)), it is possible that some health care providers could have concerns about prescribing NRT in patients that are not ready to quit.

Evidence from one SR comprising two RCTs ([197](#)) and one separate RCT ([199](#)) was examined to determine the efficacy of varenicline in increasing quit attempts and improving abstinence in individuals who smoke and are not ready to quit.

Evidence from the 2 RCTs with a total of 267 participants from the SR performed by Klemperer et al. (2023)([197](#)) showed that there was an improvement in abstinence with a RR of 2.25 and 95% CI of 1.11 to 4.56. The two RCTs assessed compared varenicline plus counseling to placebo or no treatment in patients not ready to quit. The additional RCT by Ebbert et al. (2015)([199](#)) enrolled 1,510 participants and compared varenicline for 24 weeks to placebo. There was a significant improvement in continuous abstinence rates at weeks 15 - 24 (32.1% vs. 6.9%; RR: 4.6; 95% CI: 3.5 – 6.1). There was also significant improvement in continuous abstinence rates at weeks 21 – 52 (27.0% vs. 9.9%; RR: 2.7; 95% CI: 2.1 – 3.5).([199](#)) There was a slight increase in adverse effects in the varenicline group vs. the placebo group (3.7% vs. 2.2%; P = 0.07), but the varenicline adverse effects were mostly gastrointestinal (GI) related, and the overall adverse effects were low in both groups.

Evidence from 3 RCTs in one SR, with a total of 320 participants, performed by Klemperer et al. (2023)([197](#)) showed that there was an increase in rate quit attempts with a RR of 1.36 and 95% CI of 1.07 to 1.72. The 3 RCTs assessed compared varenicline plus counseling to placebo or no treatment in patients not ready to quit. The strength of evidence from this SR was of moderate quality. The strength of evidence for the use of varenicline for increasing quit attempts was of low quality.

The study by Ebbert et al. (2015)([199](#)) showed a slight increase in adverse effects in the varenicline group vs. the placebo group (3.7% vs. 2.2%; P=0.07), but the overall adverse effects were low in both groups. Overall, the risks of varenicline are low. Therefore, the benefits of treatment with resultant tobacco cessation far outweigh the risks. The potential benefits of improved abstinence and increased quit attempts are desirable goals in the management of patients being treated for tobacco cessation. Because the patients in these studies were not ready to quit, future research should examine their willingness to use varenicline for a non-cessation goal, such as smoking reduction with the long-term aim of achieving smoking cessation. Also, despite evidence for its safety ([193](#)), it is possible that some health care providers could have concerns about prescribing varenicline in patients that are not ready to quit. The cost of prescribing or providing medications to a group of patients that may not take them is also a consideration.

The Work Group systematically reviewed evidence for treating patients who are not ready to quit smoking with NRT.([197](#)) The recommendation is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was very low. The evidence was from a single SR ([197](#)) which included seven RCTs with a total of 2,568 participants. The body of evidence had some limitations, including unclear blinding, detection, and limitation of bias, unreported randomization and allocation procedures, and serious imprecision in effect sizes for several outcomes due to small sample size or wide CIs. For NRT, the benefits (increased quit attempts) outweighed the harm (potential for adverse effects from the medication). Patient preferences were considered to vary somewhat. Thus, the Work Group decided upon a *Weak for* recommendation for the use of NRT in patients not ready to quit.

The Work Group also systematically reviewed evidence for treating patients who are not ready to quit smoking with varenicline, which was from Klemperer et al. (2023) and Ebbert et al. (2015)([197](#),[199](#)) The recommendation is categorized as *Reviewed, New-added*. The Work

Group's confidence in the quality of the evidence was low. The evidence was from a single SR (197) which included three RCTs with a total of 320 participants and an RCT (199) with a total of 1,510 participants. The body of evidence had some limitations, as listed above. For varenicline, the benefits of improved abstinence and increased quit attempts outweighed the harm (potential for adverse effects from the medication). Patient preferences were felt to vary somewhat. Thus, the Work Group decided upon a *Weak for* recommendation for the use of varenicline in patients not ready to quit.

Recommendation

21. There is insufficient evidence to recommend either for or against medication sampling for increasing treatment engagement.

Neither for nor against | Reviewed, New-added

Discussion

NRT sampling involves providing patients with a “sample” of NRT products to try, such as a short-term supply of nicotine patches and lozenges or a sample of varenicline that is not an appropriate dose or duration for standard treatment. The effectiveness of this approach has been tested among patients without regard to quitting motivation, as well as among patients not ready to make a quit attempt. The Work Group reviewed 5 RCTs that evaluated whether NRT sampling increased patient engagement in treatment for tobacco/nicotine cessation. The comparator groups were either no intervention or standard care, including educational information on smoking cessation and referral to a local quitline. Overall, the studies reviewed were determined to have a low strength of evidence.(200-204) Treatment engagement was defined and measured by how many people tried the “sample” and/or were continuing to use the medication at specific follow-up points, i.e., 1, 2, 3 and/or 6 months (these varied across studies), as well as if they requested additional medication, the level of use of NRT and whether they contacted the quitline. The findings for NRT sampling and varenicline sampling on engagement were mixed. Of the five studies reviewed, four used NRT, one used varenicline. All five varied in quantity of medication, duration of sampling, follow-up points, number of patients involved, and were performed in three different countries (the U.S., Canada, and Hong Kong). Two studies using NRT showed self-reported continued use of NRT at 8 weeks, with results ranging from 47.5%(204) vs. 58.4%(203) of any use of NRT during this time frame. Cunningham et al. (2016)(203) also measured additional purchases of NRT at 6 months, which showed similar rates for the intervention (6.4%) and control groups (7.5%). Carpenter et al. (2021)(200) reported any use of NRT from enrollment to 6 months in 25% of the intervention group and 14% of the control group. Cheung et al. (2020)(202) measured use of NRT at 1 week, 3 and 6 months showing similar results at 1 week (36% use in intervention group and 2% in the control) and 3 months (34% in the intervention group and 2% in the control) and demonstrated a lesser but still positive effect within the intervention group (16% use) versus control (4% use). The varenicline study(200) showed ongoing self-reported use at 3 months (24% any use and 10% daily use) and captured the percent who obtained additional varenicline at weeks two (8%), four (14%), eight (12%), and twelve (14%) after sampling was measured.

The harms from possible medication side effects and reported benefits were inconsistent. However, some studies of NRT sampling demonstrated measurable abstinence. Carpenter

(2020)(201) measured 7-day abstinence at 6 months with 12% self-reporting abstinence in the intervention group vs. 8% in the control. Cheung et al. (2020)(202) showed mixed results between 3 and 6 months, with the intervention group reporting abstinence at 3 months of 10% vs. 6% in the control group and 8% in both intervention and control groups at 6 months. Cunningham et al. (2016)(203) showed a 30-day abstinence at 6 months of 7.6% in the intervention group vs. 3.0% in the control and lower rates based on biochemical verification of 2.8% in the intervention group vs. 1% in the control at 6 months. Kushnir et al. (2017)(204) stated that 15.2% of those who used all the patches self-reported 30-day abstinence at 6 months. Thus, the benefits likely slightly outweigh the harms/burdens.

Sampling using NRT/varenicline allows the patient to “sample” medication options without committing to long-term treatment and may help patients who are not ready to quit. Some patients may be concerned about side effects and/or the cost associated with obtaining medication. From a clinical perspective, some providers may not be inclined to provide medications without intent to treat or lack the resources to provide prepackaged sample kits to patients.

The Work Group systematically reviewed evidence related to this recommendation.(200-204) Therefore, it is categorized as *Reviewed, New-added*. The Work Group’s confidence in the quality of the evidence was low. The body of evidence had some limitations, including the range of sampling strategies used, reliance on self-reporting, and outcomes measured at differing periods of time.(200-204) The benefits of NRT sampling on treatment engagement slightly outweighed the potential harm (e.g., possible medication side effects). The role of patient values and preferences varies. Offering NRT/varenicline sampling may empower patients who are not ready to quit by giving them an opportunity to trial a treatment without committing to quitting. However, the associated costs of obtaining medications may be a deterrent for both providers and patients. In addition, some patients may be worried about potential side effects, and others may benefit from a shared decision-making conversation to address their concerns and preferences. Thus, the Work Group decided upon a *Neither for nor against* recommendation.

G. Treatment Recommendations for Selected Subpopulations

Recommendation

22. In patients with stable mental health conditions, we suggest treating tobacco use with pharmacotherapy.

Weak for | Reviewed, New-added

23. In patients with stable mental health conditions, we recommend varenicline over single agent nicotine replacement therapy (NRT) or bupropion sustained release to improve continuous abstinence.

Strong for | Reviewed, New-added

Discussion

The systematic evidence review yielded two RCTs and one SR that assessed the safety and effectiveness of pharmacotherapy for improving abstinence from tobacco in adults with mental

health conditions.([136](#),[205](#),[206](#)) The quality of the studies ranged from moderate to very low, depending on the study design and other characteristics.

Evidence supports the use of varenicline over NRT patch and bupropion for improved continuous abstinence in patients with psychiatric disorders.([136](#)) Anthenelli et al. (2016)([136](#)) examined treatment of 4,074 patients with psychiatric disorders, the majority of whom were diagnosed with unipolar/bipolar mood disorders. Varenicline was superior to placebo, NRT patch, and bupropion when assessing continuous abstinence at the 24-week follow-up. Bupropion and NRT patch were more effective for continuous abstinence when compared to placebo but did not differ from one another.([136](#)) There was no significant difference across all treatment arms (varenicline, bupropion, NRT patch, and placebo) on moderate to severe neuropsychiatric adverse events.([136](#)) The quality of the individual RCT is fair due to moderate attrition and performance of a secondary subgroup analysis, leading to an overall moderate strength of evidence.

Cinciripini et al. (2022)([205](#)) performed a subgroup analysis of Anthenelli et al.(2016)([136](#)), assessing the safety and efficacy of smoking cessation pharmacotherapy in patients with MDD, totaling 2,602 patients. Varenicline was superior to NRT patch for continuous abstinence rates at 24-week follow-up.([205](#)) Varenicline was superior to bupropion at 12-week follow-up, but no difference was shown at 24-week follow-up.([205](#)) There was also no difference comparing bupropion to NRT patch for continuous abstinence at 24-week follow-up.([205](#))

In an SR by Siskind et al. (2020)([206](#)), varenicline was superior to bupropion for smoking abstinence in patients with schizophrenia. There was no difference in abstinence comparing varenicline to NRT nor comparing bupropion to NRT.([206](#)) Although mental health functioning outcomes and serious adverse events were not reported, the authors did state “neither varenicline nor bupropion had deleterious effects on psychiatric outcomes.”([206](#)) Varenicline did cause higher rates of nausea than placebo. The overall strength of evidence of the SR was very low. The quality of the included RCTs in the SR was rated as good to poor (average quality fair). The overall strength of evidence was also downgraded for indirect comparisons performed in a network meta-analysis. Therefore, the Work Group was unable to make specific treatment recommendations for persons with schizophrenia, given the insufficient, low-quality evidence.

There is likely some variation in patient preferences with pharmaceutical interventions based on risks versus benefits, medication side effect profiles, and potential interactions between medications. Patients who smoke agree with the short-term and long-term health and financial benefits of smoking cessation. However, patients with psychiatric disorders may be reluctant to take a medication due to possible side effects after achieving a stable treatment regimen. Anthenelli et al. (2016) considered patients to be clinically stable for inclusion if no exacerbations of their condition in the preceding 6 months, on stable treatment for at least 3 months with no anticipated treatment changes, and not considered to be at high risk of self-injury or suicidal behavior as gauged by patient responses on the Suicide Behaviors Questionnaire—Revised or Columbia-Suicide Severity Rating Scale (C-SSRS).(a href="#">136) Based on the evidence review, providers can be confident that any of the FDA-approved pharmaceutical

interventions for smoking cessation are safe for patients with stable mental health conditions and do not elicit an increased risk of moderate to severe neuropsychiatric adverse events. (136,205,206) Although Anthenelli et al. (2016)(136) provides a clear and specific definition for stable mental health conditions, it would be reasonable for providers to provide smoking cessation pharmacotherapy as long as symptoms are under sufficient control without worsening, being disabling or life-threatening. Patients may also be concerned about availability and costs associated with additional medications. Therefore, treatment options should be thoroughly reviewed with patients to use shared decision making with the goal of achieving and maintaining abstinence from tobacco/nicotine use.

The Work Group systematically reviewed evidence related to these recommendations(136,205,206) which are *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was very low. The body of evidence had some limitations including moderate attrition and performance of a secondary subgroup analysis (136,205), and indirect comparisons performed in a network meta-analysis.(206) The benefit of using pharmacotherapy to improve abstinence from tobacco in patients with stable mental health conditions outweighs the potential harm of neuropsychiatric adverse events or medication side effects, which have been reported as minimal. Thus, the Work Group decided upon a *Weak for* recommendation in treating tobacco use with pharmacotherapy in patients with stable mental health conditions (Recommendation 23). The benefits of prescribing varenicline for achieving continuous abstinence at 24-week follow-up outweighed the potential harm of neuropsychiatric adverse events or medication side effects, which was overall minimal. Patient values and preferences varied somewhat because of their concerns for stability of mental health conditions and potential for side effects, copays, and access to medications. Thus, the Work Group decided upon a *Strong for* recommendation for varenicline over NRT patch monotherapy or bupropion to improve continuous abstinence in patients with stable psychiatric disorders (Recommendation 22).

Recommendation

24. We suggest counseling be adapted to address both tobacco use and co-occurring serious mental illness (e.g., bipolar disorder, schizophrenia, other psychotic disorders).

Weak for | Reviewed, New-added

Discussion

Face-to-face behavioral interventions tailored for people who smoke with serious mental illness (SMI) in studies reviewed by Spanakis et al. (2022)(207) consistently found greater efficacy for adapted versus comparison interventions. The four studies reviewed employed interventions that were provider-delivered, including face-to-face group (n=2) or individual (n=2) treatment. The strength of evidence for these studies (combined n of over 800) was judged to be moderate for critical outcomes, identifying significantly higher abstinence rates for medium- and long-term outcomes. These studies provide support for the utility of in-person behavioral counseling interventions incorporating content adapted to individuals who smoke with SMI compared with standard behavioral counseling. Note that the recommendation applies to face-to-face treatment, as a review of web-based interventions yielded no differences in outcomes and a very low rating for quality of evidence.(207)

The adapted interventions reviewed provided between 8 to 24 sessions and were 30 – 60 minutes in duration. All studies reviewed provided an extended duration of treatment (e.g., increased number of sessions and/or contact time compared to usual care) and/or additional support compared with standard behavioral counseling. Adaptations included utilizing treatment providers experienced with addressing mental illness(208-210), including other providers (e.g., physicians)(208-210), motivational enhancement(210,211), social skills/peer support(210,211), social and financial reinforcement of recent abstinence(210), and home visits.(208,209) The difference in intensity between experimental and control conditions challenges clear interpretation regarding the adaptations.

Studies that examined changes in psychiatric symptoms in relation to tobacco cessation consistently found either no significant differences or significant improvement, indicating that cessation for those who use tobacco with co-occurring psychiatric disorders does not negatively impact mental health.

Medical providers who treat people who use tobacco with serious mental illness may be reluctant to recommend cessation because they erroneously view tobacco use as acceptable or positive in this population. Similarly, some providers may believe that addressing tobacco use is a low priority for these patients, given other challenges they must confront. These provider beliefs represent a barrier to treatment for people who use tobacco with SMI. In contrast to these beliefs, research indicates that individuals with mental illness are as motivated for cessation as people who use tobacco without mental illness (212), and there are physical and mental health benefits to cessation.(213) Another consideration in addressing tobacco use in those with serious mental illness is that cessation of combustible tobacco can lead to decreased metabolism of certain medications, thus indicating the importance of monitoring by a physician or medication provider. Psychiatric medications affected include clozapine, olanzapine, haloperidol, fluvoxamine, duloxetine, tricyclic antidepressants, diazepam, and mirtazapine.(214,215)

It is judged that the benefit of providing adapted behavioral counseling for tobacco cessation in individuals with SMI is comparable to the associated burdens. Burdens include the longer duration and intensity of adapted treatment, as well as implementation challenges, given the variation in living arrangements and treatment settings that may be required to access individuals with SMI. While adapted interventions may lead to increased cessation, it is not known whether these are more beneficial than providing more intensive courses of standard treatment. Benefits of cessation are substantial, particularly given that tobacco-related disease is the leading cause of mortality in this population and that tobacco use confers significant financial burdens. Finally, there is no evidence that tobacco cessation impairs mental health in this population.

When considering patient values and preferences, although studies of motivation for tobacco cessation indicate that those with mental illness are equally motivated compared to those without mental illness, it is acknowledged that variation exists across this subgroup, and some patients may not be interested in changing their tobacco use. Individuals with serious mental illness experience considerable stigma related to their illness, which may be exacerbated by the stigma associated with tobacco use, in particular, cigarette smoking. As such, tobacco cessation may

serve to reduce some of the stigma experienced by people who use tobacco with serious mental illness.

Beyond considerations of patient values and preferences, health equity is an important consideration supporting the present recommendation. People who use tobacco with serious mental illness bear a disproportionate burden of the health and financial consequences of tobacco use, thus representing a health inequity group. As such, tobacco use treatment has the potential to reduce such inequities.

The Work Group systematically reviewed evidence related to this.[\(207\)](#) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was moderate. The body of evidence had some limitations related to measurement bias, including a lack of blinding of the outcome assessor and using self-report measures.[\(208-211\)](#) For people who use tobacco with co-occurring SMI (e.g., bipolar disorder, schizophrenia, other psychotic disorders), the benefits of behavioral counseling for tobacco use treatment adapted to address both tobacco use and characteristics of this population (tobacco cessation, added opportunity to monitor and address mental health, no harm and potential benefits for mental health) outweighed the potential harms/barriers (higher burden associated with more intensive and longer duration of treatment, challenges of implementing treatment in settings that serve individuals with SMI). Patient values and preferences varied somewhat because not all patients are motivated to change their tobacco use. Also, the perceived stigma of tobacco use may vary within individuals in this highly stigmatized population. Thus, the Work Group decided upon a *Weak for* recommendation.

Recommendation

25. In patients being treated for alcohol use disorder/substance use disorder, we suggest concurrently treating tobacco use with behavioral counseling and pharmacotherapy.

Weak for | Reviewed, New-added

Discussion

Behavioral counseling and pharmacotherapy have been found to be beneficial for treating tobacco use in patients who are concurrently receiving treatment for alcohol use disorder (AUD)/SUD. Evidence from 12 RCTs in 1 SR [\(216\)](#) supports better outcomes with counseling plus pharmacotherapy vs. usual care for biochemically validated tobacco cessation up to 18 months. These studies examined people who smoke being treated for alcohol use (7 studies) and substance use (6 studies), mostly in inpatient facilities. The overall strength of evidence in these studies was determined to be low. The types of smoking cessation treatments included counseling (brief advice session or multiple sessions of behavioral support, either individually or in a group), pharmacotherapy (any type of NRT), or a combination of counseling and pharmacotherapy. Control groups received usual care, brief advice about quitting smoking, or were put on a waiting list to receive treatment later. The benefits outweigh the harms, given that adding tobacco treatment to stand-alone AUD/SUD treatment may improve access to treatment, particularly for a population that may not otherwise seek tobacco cessation treatment. In addition, the benefits of cessation are substantial, and there is no evidence of decreased effectiveness of

the AUD/SUD treatment. However, it is important to note that these studies included participants who were mostly receiving inpatient AUD/SUD treatment, which may limit the generalizability of these findings to other populations who do not require inpatient treatment.

In addition, research indicates that it is appropriate to treat tobacco use in patients who do not meet criteria for AUD but are reporting alcohol misuse. Alcohol misuse included heavy episodic drinking, heavy-, at risk-, hazardous-, and binge-drinking. There are 5 RCTs (217-221) that suggest no significant difference in treatment outcomes with combination behavioral interventions (addressing both tobacco and alcohol use) as compared to tobacco intervention only (measured by biochemically validated and self-reported 7-day point prevalence) from 6 months to 12 months in people who smoke with heavy episodic drinking, heavy-, at-risk-, hazardous-, and binge-drinking. The overall strength of evidence in these studies was determined to be low. It is important to note that providing combination treatment does not appear to result in decreased treatment effectiveness for AUD/SUD. There were no effectiveness studies comparing the effectiveness of standalone tobacco treatment to combination treatment. In addition, these studies were conducted on small sample sizes with problematic drinking that did not necessarily meet the criteria for an AUD.

Patients' motivation to make a change may vary, particularly for those already experiencing low motivation or success with AUD/SUD treatment. Also, there may be a perceived burden for providers to address both nicotine and other substance use at the same time. However, combined treatment of both nicotine dependence and AUD/SUD has been shown to be efficient.(216) These studies did not include patients being seen for AUD/SUD in the outpatient setting, which is a large subpopulation that may experience combination treatment differently. In addition, these studies exclusively focused on younger individuals (college-aged population) and lacked data on middle-aged or older adults.

The Work Group systematically reviewed evidence related to this recommendation.(216-221) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was low. The body of evidence had some limitations including small sample sizes and risk of selection bias.(216-221) The benefits of pharmacotherapy and behavioral counseling for patients who are receiving AUD/SUD treatment outweigh the potential harms. Patient values and preferences may vary somewhat because patients may prefer to receive treatment concurrently or they may prefer addressing one condition at a time. Thus, the Work Group decided upon a *Weak for* recommendation.

Recommendation

26. There is insufficient evidence to recommend for or against counseling that combines treatment for tobacco use and depression or post-traumatic stress disorder compared to standard tobacco cessation counseling.

Neither for nor against | Reviewed, New-added

Discussion

Review of three RCTs comparing behavioral interventions combining treatment for tobacco use and depression or PTSD with interventions addressing tobacco use alone yielded insufficient

evidence to draw conclusions regarding their relative efficacy. Dedert et al. (2019)([222](#)) compared Cognitive Processing Therapy for Smoking (CPTS) with a tobacco intervention that did not address PTSD among Veterans with PTSD. Results showed that there was no effect of CPTS vs. tobacco treatment alone on abstinence. However, those in the CPTS group reported improved PTSD symptoms relative to those who received tobacco treatment only. Foa et al. (2017)([223](#)) compared varenicline smoking cessation treatment plus prolonged exposure (PE) with varenicline smoking cessation treatment alone. No differences in abstinence were found between the treatment groups; however, those randomized to varenicline combined with PE were more likely to report reductions in PTSD and depressive symptoms relative to those who received varenicline alone. Hitsman et al. (2023)([224](#)) conducted a 2 x 2 factorial trial that evaluated the effects of 1) Behavioral Activation for Smoking Cessation (BASC) vs. standard behavioral treatment and 2) varenicline vs. placebo. Results showed that the behavioral intervention that targeted both smoking and depression (BASC) did not increase abstinence relative to standard behavioral treatment.

The overall strength of evidence was determined to be very low due to small sample sizes, imprecision, substantial loss to follow-up, and other risks for bias. As such, it is currently unknown whether there is an advantage to providing tailored interventions for people who use tobacco with mental health conditions above and beyond standard evidence-based behavioral counseling. Importantly, these findings do not contradict recommendations for providing evidence-based behavioral counseling for people who use tobacco with mental health conditions.

Our analysis only considered evidence from SRs or RCTs published on or after January 1, 2014, to December 10, 2024. We were unable to include a large RCT (N=943) performed earlier that compared Integrated Care (i.e., tobacco treatment delivered by a mental health provider during PTSD treatment) vs. referral to VHA Smoking Cessation Clinics.([225](#)) Results showed that Integrated Care (vs. referral to a smoking cessation clinic) significantly improved prolonged abstinence among Veterans with PTSD (8.9% vs. 4.5%, respectively).

While this Work Group determined that there was insufficient evidence to recommend for or against delivering interventions that concurrently address tobacco use and mental health conditions, there is no evidence of harm for patients who use a combination treatment approach. Offering a combined treatment that emphasizes tobacco use as a primary treatment goal might encourage treatment engagement among individuals reluctant to enter traditional mental health treatment. Thus, such an approach provides an additional context for engaging patients in mental health treatment as well as for monitoring their mental health symptoms within the context of tobacco use treatment. In addition, some patients may prefer an efficient treatment approach that simultaneously targets both tobacco use and mental health symptoms. As noted above, such an approach can lead to improved mental health functioning (relative to tobacco treatment alone), and there is no evidence for worsening of mental health symptoms when using a combined approach. Although outside the scope of this review, another trial of Behavioral Activation Smoking Treatment vs. standard smoking cessation treatment among Veterans with PTSD demonstrated that there was no worsening of PTSD symptoms resulting from tobacco treatment or achieving abstinence.([226](#))

The Work Group agreed that there would be little variation in patient values and preferences, as clinical experience indicates that patients highly value integrated/combined treatment approaches for tobacco use. Moreover, patients may prefer the convenience of an approach that simultaneously addresses multiple goals (i.e., treatment addresses both tobacco use and mental health symptoms), eliminating the need for separate appointments. Kaye et al. (2025)([226](#)), found that Veterans with PTSD reported that an integrated approach was high in acceptability. The Work Group also agreed that a combined treatment approach has the potential to decrease smoking-related health inequities experienced by those with PTSD and depression by increasing engagement of such individuals in tobacco treatment. While the studies reviewed focused specifically on PTSD and depression, the Work Group noted that the balance of desirable and undesirable outcomes, patient values and preferences, and potential implications for equity may also extend to other mental health conditions.

The Work Group systematically reviewed evidence related to this recommendation.([222-224](#)) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was very low. The body of evidence had some limitations including small sample sizes, imprecision, loss to follow-up, and risk of bias.([222-224](#)) The benefits of using a tobacco counseling approach that simultaneously treats tobacco use and mental health symptoms (e.g., improved mental health symptoms and treatment access for those with mental health disorders) outweighed the potential harms, as no harms were noted. Patient values and preferences were similar because patients tend to value the efficiency and individualization of approaches that target multiple clinical goals. Thus, the Work Group decided upon a *Neither for nor against* recommendation.

Recommendation

27. There is insufficient evidence to recommend for or against the effectiveness of bupropion or nicotine replacement therapy for tobacco cessation during pregnancy.

Neither for nor against | Reviewed, New-added

Discussion

Two SRs examined whether pharmacotherapy is safe and effective during pregnancy. One SR, found to be of good quality of evidence, included three RCTs comparing the safety and effectiveness of bupropion to placebo in pregnant individuals.([227](#)) The other SR included six RCTs comparing the safety and effectiveness of NRT to placebo in pregnant individuals; the overall quality of the included studies was found to be fair.([228](#)) No studies met the inclusion criteria for tobacco treatment during lactation and breastfeeding. Reduced use and increased quit attempts were not reported in the included studies. Evidence for the safety and effectiveness of other cessation interventions during pregnancy (e.g., varenicline) did not meet the inclusion criteria.

For bupropion, no difference in tobacco abstinence outcomes was found compared to placebo. The three RCTs included 205 participants (bupropion: n=99, placebo: n=106).([227](#)) The Work Group determined that due to the small number of study subjects, there is insufficient evidence to assess safety during pregnancy. One RCT found increased birthweight and length in the bupropion group. Two RCTs found no differences between birthweight, length, head

circumference, Apgar scores, and gestational age. Known adverse effects of bupropion were reported, including headache, sleep disturbances, nasal secretion, and dry mouth. Vomiting in the bupropion group was reported in two women. Reduced use and increased quit attempts were not reported in the included studies.

For NRT, the review by Coleman et al. (2012)([228](#)) found no difference in validated or self-reported abstinence compared to placebo. The six RCTs included 2,063 participants (NRT: n=1,035, placebo: n=1,028). The Work Group determined that, due to the limited number of study participants, there is insufficient evidence to assess safety signals of NRT during pregnancy. No difference in adverse pregnancy outcomes was reported, including low birthweight, preterm birth, congenital abnormalities, caesarean section, miscarriage and spontaneous abortion, and stillbirth.

This recommendation aligns with the U.S. Preventive Services Task Force 2021 recommendation, which states, “the current evidence is insufficient to assess the balance of benefits and harms of pharmacotherapy interventions for tobacco cessation in pregnant persons.”([229](#)) The American College of Obstetricians and Gynecologist committee opinion in 2023 discusses individualizing pharmacotherapy with pregnant patients. They state that obstetricians should counsel pregnant women on the risks of smoking and the benefits of quitting, potentially using medications like bupropion or varenicline, while understanding their risks and benefits; bupropion is likely safe during breastfeeding at low doses, but due to a lack of data, varenicline is not preferred during lactation, especially with newborns or preterm infants.([230](#))

Due to the serious perinatal consequences of combustible tobacco and the known efficacy of treatments in the general population, it was felt that the benefits of treatment slightly outweigh the harms. There is likely some variation in patient values and preferences. Increased motivation to quit during pregnancy, along with stigma in smoking status during pregnancy, were considered. Those who continue to smoke during pregnancy likely have strong dependence on nicotine, making cessation more challenging. Additionally, patients may be more averse to medication risks during pregnancy.

The Work Group systematically reviewed evidence from Vila-Farinas et al.(2024)([227](#)) and Claire et al.([228](#)) related to this recommendation for insufficient evidence for or against bupropion and NRT during pregnancy. Therefore, it is categorized as *Reviewed, New-added*. The Work Group’s confidence in the quality of the evidence was low. The body of evidence had some limitations including a small sample size ([227](#)), and risk of selection and reporting bias.([228](#)) The benefits of NRT and bupropion use during pregnancy slightly outweighed the potential harm. Patient values and preferences varied somewhat due to concerns around taking medications during pregnancy, and increased stressors during the perinatal period, likely affecting motivation to quit. Thus, the Work Group decided upon a *Neither for nor against* recommendation for bupropion or NRT for tobacco cessation during pregnancy.

H. Complementary and Integrative Health Interventions

Recommendation

28. As a standalone therapy, we suggest against acupuncture, mindfulness, or hypnotherapy for abstinence from tobacco and nicotine products.

Weak against | Reviewed, New-added

Discussion

Acupuncture

The certainty of evidence for the short-term effectiveness of body filiform needle acupuncture, auricular acupressure, and acupoint catgut embedding is overall very low. An umbrella SR by Zhang et al. (2024)([231](#)) demonstrated that the use of filiform needle acupuncture, auricular acupressure, or acupoint catgut embedding may be effective in promoting short-term smoking cessation (<6 months), but not long-term smoking cessation (>6 months) over sham treatment, in adults who smoke cigarettes.([231](#)) In studies assessing filiform needle acupuncture against NRT, NRT was superior in achieving cessation. There were also data supporting that acupoint catgut embedding may be comparable to bupropion or varenicline in promoting short-term cessation. No serious adverse events were reported. However, major flaws in study design were noted in the majority of these studies. Lack of blinding and small sample sizes resulted in low certainty of evidence.

The harms of utilizing acupuncture as a therapy for smoking cessation slightly outweigh the benefits. Acupuncture therapy may be burdensome for some patients, requiring them to dedicate time to attending appointments. As a result, if ineffective, the therapy may pose harm to patients' confidence to continue to receive treatment to cease tobacco and nicotine use. There is also a risk of financial loss to the healthcare system or the individual when insurance does not cover these types of treatments, and they are ineffective.

Mindfulness

The strength of the evidence for mindfulness training as a treatment for tobacco and nicotine use is overall low. A Cochrane review demonstrated that studies comparing mindfulness-based interventions for tobacco cessation to other forms of tobacco cessation treatment (counseling or brief advice) or no treatment did not detect significant differences in abstinence rates.([232](#)) The burden of mindfulness as a standalone therapy slightly outweighs the benefits. Mindfulness training and practice require patients to dedicate time to practicing and achieving results, which may lead to frustration if ineffective for smoking cessation. A benefit of mindfulness practice is that it can be performed by the patient at home and does not require scheduled appointments. Mindfulness practice may also help patients cope with stress and overcome triggers for tobacco and nicotine use.([233](#))

Hypnotherapy

The strength of evidence is low for hypnotherapy as an intervention for smoking cessation when compared to other interventions. A Cochrane review demonstrated that studies comparing

hypnotherapy to a variety of interventions such as behavioral interventions, NRT, medication, placebo drug, or rapid smoking, did not find significant differences between hypnotherapy and other interventions.⁽²³⁴⁾ Researchers did observe higher rates of smoking cessation when assessing hypnotherapy vs. no treatment and when assessing hypnotherapy as an adjunct to another intervention. However, these studies were found to be at high risk for publication bias, selection bias, and detection bias.

Few studies assessed adverse events from hypnotherapy compared to other interventions. Similar to acupuncture, the harms and burden of hypnotherapy slightly outweigh the benefits. Engaging in hypnotherapy as a standalone treatment may delay care with more effective treatments that are backed by evidence. Hypnotherapy may also be burdensome as it requires a time commitment to attend appointments. For these reasons, treatment failure may discourage patients from seeking further treatment. Of note, military personnel engaging in hypnosis may lose their security clearances due to concerns regarding their reliability.

Treatment Accessibility

Access to acupuncture and hypnotherapy is widespread within the VHA. VA Directive 1377, provision of complementary and integrative health approaches, enables Veterans to receive these services at VA Medical Centers, through telehealth, or through community care. However, for the DOD, there is limited access to acupuncture and hypnotherapy as treatment options for tobacco and nicotine use. Providers specializing in acupuncture or hypnotherapy may be scarce in rural and remote areas near military treatment facilities. Furthermore, for active-duty personnel, TRICARE does not cover out of network referrals for such treatments. Patients who are averse to pain and needles may not adhere to acupuncture, making it impractical as a generally recommended standalone treatment option.

Mindfulness, while more easily accessible for patients, may not be widely accepted. Mindfulness practice can be performed in a wide array of settings by patients after initial training. However, patients may be skeptical if not previously exposed to such therapies.

The Work Group systematically reviewed evidence related to this recommendation.^(231,232,234) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was very low. The body of evidence had some limitations including small sample sizes, lack of clear and consistent control groups across studies, blinding, and chemical verification of abstinence.^(231,232,234) The potential harm of acupuncture, mindfulness, and hypnotherapy as standalone therapies for tobacco and nicotine cessation slightly outweigh the benefits. Patient values and preferences varied largely because some patients prefer a wide variety of options while others prefer therapies that are easy to administer, that can easily fit into their schedules, and that do not require invasive techniques. Thus, the Work Group decided upon a *Weak against* recommendation.

I. Neurostimulation Interventions

Recommendation

29. There is insufficient evidence to recommend either for or against repetitive transcranial magnetic stimulation, transcranial direct current stimulation, and intermittent theta burst stimulation for abstinence from tobacco and nicotine products, reduced use, or cravings.
Neither for nor against | Reviewed, New-added

Discussion

This recommendation is based on the findings of three SRs by Mehta et al. (2023)([235](#)), Chan et al. (2024)([236](#)), and Gay et al. (2022)([237](#)). The overall confidence in the evidence for abstinence outcomes was rated as low to moderate.

A comprehensive SR and meta-analysis of four neuromodulation therapies - repetitive transcranial magnetic stimulation (rTMS), transcranial direct current stimulation (tDCS), intermittent theta burst stimulation (iTBS), and deep brain stimulation (DBS) across substance use disorders, including tobacco, was published by Mehta et al. in 2023.([235](#))

rTMS is a non-invasive neuromodulation technique shown to be effective in neurological and psychiatric disorders.([235](#)) It uses a changing magnetic field to induce an electric current in a targeted area of the brain. An electromagnetic coil is placed against the scalp of the head, delivering magnetic pulses that stimulate nerve cells in regions of the brain. For tobacco use, multi-session rTMS showed moderate effects in reducing cravings and use. However, protocols varied in frequency, coil type, duration, and session scheduling. Most studies assessed outcomes within days to weeks post-intervention, relying on self-reported craving and smoking behavior, with long-term cessation rates largely underexplored. Compared to tDCS, rTMS demonstrated larger, more consistent effect sizes. However, differences in stimulation, frequencies, session count, coil positioning, and intensity reduced comparability across studies and limited protocol optimization.

tDCS is a non-invasive brain stimulation technique that modulates cortical excitability by applying electrical currents using two or more electrodes.([235](#)) For tobacco use, reduced craving was the most responsive outcome, compared to reduced use or abstinence. However, the strength of evidence is low due to methodological variability and inconsistencies. No statistically significant abstinence findings were reported, primarily due to the lack of long-term trials and inconsistent outcome definitions. Many studies relied on self-reported craving and use, although participants who received active tDCS reported less craving than those in the sham group.

Chan et al. (2022)([236](#)) reported similar findings but noted the lack of gold standard protocols and limited abstinence data, indicating that the role of tDCS in relapse prevention remains unclear.

iTBS, a shorter, patterned form of rTMS, was not independently analyzed or specifically evaluated in the people who use tobacco in the studies by Mehta et al. (2024)([235](#)) and Gay et al. (2022)([237](#)). However, among stimulant users (including those in the nicotine group), iTBS showed potential for reducing smoking-related cravings. Mehta et al. (2023)([235](#)) reported higher

sustained abstinence rates, particularly when iTBS was combined with CBT at three months post-treatment, highlighting the role of behavioral therapy in translating neural changes into lasting cessation.

Mehta et al. (2024)([235](#)) reported 3-month abstinence outcomes; however, this finding was not consistent across all studies. Chan et al. (2024)([236](#)) primarily focused on immediate reductions in cravings and did not include abstinence outcomes. Gay et al. (2022)([237](#)) focused entirely on cravings and excluded long-term outcomes such as relapse or cessation. Biochemical validation was also not reported.

Due to the invasive nature and extremely limited number of studies focusing on tobacco, DBS is not considered in this recommendation.

Evidence suggests the benefits slightly outweigh the harms and burdens. Overall, rTMS, tDCS and iTBS are considered safe, low-risk, and generally well tolerated, with minor side effects such as scalp irritation, tingling, and headaches. Among neuromodulation treatments for nicotine use, rTMS involves the greatest time commitment. Multi-session trials have shown a modest increase in abstinence, particularly when combined with CBT. However, these modalities are not ideal for casual use or targeting cravings alone due to their time and logistical burdens.

Patient values and preferences varied. Non-pharmacologic options are attractive to those seeking alternatives to medications or NRT with minimal side effects. Yet, some patients may hesitate to accept neuromodulation due to unfamiliarity with the technology. The term “brain stimulation” can sound invasive. There is potential hesitation to try something that is not yet a standard of care for smoking cessation. Time can be a barrier as multiple sessions may be needed. These treatments are often not reimbursed for smoking cessation, leading to high out-of-pocket costs.

Access to neuromodulation for tobacco addiction within VA and DOD is currently limited, and trained staff or equipped facilities may not be available across the enterprise.

The Work Group systematically reviewed the evidence related to this recommendation.([235](#)),([236](#)),([237](#)). As such, it is categorized as *Reviewed, New-added*. The Work Group rated its confidence in the quality of the evidence as very low. Limitations included variability in technique, stimulus intensity and frequency, total pulse count, and inconsistencies in targeted brain regions. Additionally, most trials assessed outcomes within a few weeks post-treatment. The lack of long-term data on sustained abstinence, relapse prevention, and validated abstinence outcomes warrants cautious interpretation. As a result, the Work Group issued a *Neither for nor against* recommendation.

J. Interventions Implemented at System-level

Recommendation

30. We recommend using proactive outreach to increase engagement in treatment for tobacco and nicotine use.

Strong for | Reviewed, New-added

Discussion

Traditionally, healthcare systems favor a reactive approach to tobacco and nicotine cessation services. Patients are more often provided with information about cessation services during clinical visits rather than through a proactive outreach effort. A proactive outreach approach involves actively reaching out to patients to address their concerns and anticipate their needs. This, in return, allows for a greater promise in improving participant rates, lowering barriers, and improving outcomes. The SR retrieved 3 RCTs and 2 secondary analyses of the data from 1 of the RCTs in proactive outreach with Veteran, military populations. The studies looked at the effectiveness of proactive outreach with MI versus usual care for the engagement of smoking cessation services. Proactive outreach efforts in the studies included (1) a telephone call, (2) face-to-face, or (3) a mailed invitation. Through telephone efforts, participants were contacted by an assigned coordinator, counselor, or instructed to directly call the tobacco quitline. Participants who opted for in-person (face-to-face) counseling attended group sessions or individual counseling sessions (if available). Individuals who opted for mail received cessation reference materials (personal invitation letter and brochure) about the program and were offered telephone or in-person for continued service.

Usual care defined in the studies included access to (1) tobacco quitline, (2) cessation medicine, or (3) self-help material. Variation in measurement of engagement included the use of pharmacotherapy or NRT, calls to the quitline, and engagement with smoking cessation services. The quality of evidence for proactive outreach ranged from very low to moderate. The combined studies showed that there was a higher level of engagement in smoking cessation services through outreach efforts.

In a study conducted by Sherman et al. (2018)[\(238\)](#); they compared two engagement approaches: proactive outreach versus reactive engagement for smoking cessation treatment. The study involved 2,003 participants across 35 Department of VA primary care clinics in California and Nevada. Participants were divided into two groups: the proactive group (1,069 participants) received counseling calls from a care coordinator via the quit line, while the reactive group (934 participants) only received self-help materials. Notably, participants in the proactive group reported a higher abstinence rate at six months (21.0% vs. 16.4%, $p=0.03$). Additionally, there was an increase in the use of cessation medications in both groups (70.11% vs. 57.6%, $p<0.001$), indicating that both strategies contributed to long-term abstinence.

In another review by Fu et al. (2014)[\(239\)](#), the Veterans Victory Over Tobacco Study looked at 6,400 individuals who smoke, aged 18 to 80. The study looked at using proactive outreach versus usual care (reactive care). Proactive outreach efforts included mailed invitations followed by a telephone call. The usual care participants received access to smoking cessation resources during standard routine care. A total of 5,123 participants were included in the primary study. The primary outcome was 6 months of prolonged smoking abstinence at the 1-year mark. At the 1-year mark, the smoking abstinence rate was 13.5% for proactive care compared to 10.9% with usual care. It is important to note, however, that two additional RCTs yielded mixed results regarding the effectiveness of proactive outreach following patient discharge from a hospital.

Additional considerations that influenced the Work Group's recommendation included the involvement of specific sub-populations. The studies reviewed encompassed Veterans, active-duty personnel, reservists, members of the National Guard, dependents of military individuals, and the general population. Notably, the research by Klesges et al. (2015)([240](#)), specifically focused on active-duty personnel from the Air Force and Army.

The Work Group systematically reviewed evidence related to this recommendation.([49,238,240-243](#)) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was moderate. The body of evidence had some limitations including 4 RCTs rated fair quality, e.g., small sample size and confounders in the analysis.([124,238,240,244,245](#)) The benefits of proactive outreach outweigh harms/burden, the potential harm being small adverse events. Patient values and preferences varied somewhat as some patients may be reluctant, not ready, or prefer not to discuss at the time. Additionally, some patients may have a preference in the outreach strategy such as a phone call, traditional mail, or text message. Thus, the Work Group decided upon a *Strong for* recommendation.

Recommendation

31. We suggest the use of contingency management or incentives in combination with behavioral counseling and pharmacotherapy for treating tobacco and nicotine use.

Weak for | Reviewed, New-added

Discussion

Contingency management (CM) and incentive-based rewards are both behavioral interventions that use external rewards to encourage desired behaviors. CM uses motivational incentives, like prizes or vouchers, to reward persons for positive behaviors, such as remaining abstinent from drug use. CM has been used to reduce drug use across a wide range of substances ([246](#)) and has been implemented in VHA as an evidence-based practice for the treatment of substance use disorders.([247](#)) Traditionally, CM protocols are clinic-based and provide positive rewards/reinforcers contingent on evidence of drug abstinence measured frequently via objective biological assay. In contrast to CM, incentive-based reward programs attempt to induce abstinence by the provision of much larger rewards that are offered less often (e.g., a single occasion or a few endpoints).

The Work Group reviewed evidence from SRs and meta-analyses of CM/incentive-based programs in mixed populations as well as available evidence in subpopulations including pregnant women and persons with other substance use disorders. Davidson et al. (2024)([248](#)) reviewed 37 studies and found a consistent effect favoring CM, however, the length of follow-up assessment was not specified in the review, and thus, little weight was given to the findings. Getty et al. (2019)([249](#)) reviewed two RCTs of mobile-health based CM, but only one study reported abstinence outcomes at a long-term follow-up, indicating a short-term treatment effect for CM that was not statistically significant at the 6-month follow-up. Sayegh et al. (2017)([250](#)) reviewed 12 CM trials, finding an effect in favor of CM between >0 and ≤3 months, however, only 4 of the included trials reported a long-term follow-up. Of these, two studies overlapped with the review and meta-analysis by Notley et al. (2019).(251) Of the 2 studies from Sayegh et al. (2017)([250](#))

that were not included in Notley et al. (2019)([251](#)), only one study reported abstinence rates. Dallery et al. (2013)([252](#)) found that an internet voucher-based CM protocol resulted in abstinence rates that were twice as high at the 6-month follow-up (15.8% vs. 8%), but results were not statistically significant. Given the small number of studies with a long-term follow-up and the overlap with Notley et al. (2019)([251](#)), the meta-analysis from Sayegh et al. (2017)([250](#)) was not considered by the Work Group. Notley et al. (2019)([251](#)) is a large Cochrane review of 43 studies that included CM or incentive-based interventions and was viewed as the best evidence examining the efficacy of CM/incentives in mixed populations. Importantly, findings from Notley et al. (2019) examining studies that assessed bio-verified abstinence rates with at least a 6-month follow-up demonstrated an effect on abstinence in favor of CM/incentive-based programs at both short-term and long-term follow-ups. Because no review directly addressed the second part of our key question (i.e., the comparative effectiveness of CM as an adjunct to a behavioral intervention versus a behavioral intervention alone), we further examined a subset of studies reviewed in Notley et al. (2019)([251](#)) that included a test of CM intervention plus another behavioral intervention versus a behavioral intervention alone. Together, these studies ([253-260](#)) indicated an effect in favor of CM paired with a behavioral intervention over a behavioral intervention alone (RR=1.67; 95% CI: 1.18-2.36). When examining the efficacy of CM in specific populations, two meta-analyses ([251,261](#)) indicated an effect on abstinence in favor of CM for pregnant women including abstinence outcomes measured during pregnancy and at postpartum assessments. Meta-analyses of CM interventions for persons who smoke in treatment for other substance use disorders ([251,262](#)) demonstrated an effect for CM at end-of-treatment that did not persist to long-term outcomes.

The Work Group judged that the benefits of achieving abstinence using CM/incentives outweigh the associated harms or burdens. The benefits of cessation are substantial. Burdens associated with CM/incentives include the need to bioverify abstinence and the increased costs of incentives.

When considering patient values and preferences, evidence outside the scope of the review indicates that the majority of people who use tobacco view rewards/incentives and abstinence verification as helpful for increasing motivation to achieve abstinence.([263-266](#)) There is variation, however, in perceptions about the appropriate size and value of incentives for CM programs.([263](#)) Incentives have ranged from small amounts (e.g., under \$100) to large amounts (e.g., over \$700).([251](#)) Notley found there was no statistically significant effect between trials offering low or high total value of incentives.([251](#)) Similarly, there is likely variation in the salience of reward based on patient-related factors such as income.

With consideration to subgroups, the addition of CM to standard behavioral counseling interventions may be especially important for pregnant women who may be reluctant to use or have contraindications to the use of tobacco cessation pharmacological aids. There is evidence of attenuated long-term effectiveness of CM in some populations. Although there is insufficient evidence of long-term benefit in persons in treatment for SUDs (e.g., alcohol, illicit drugs), there is a clear benefit for CM for increasing quit attempts and short-term abstinence outcomes in this population, which disproportionately bears the burden of tobacco-related health consequences.

The Work Group systematically reviewed evidence related to this recommendation.[\(251,261,262\)](#) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was low. The body of evidence had some limitations including small sample sizes, variation in the length of treatment, variation in monitoring and reinforcement schedules, and variation in the magnitude of rewards. The quality of included studies was judged to be fair. [\(251,261,262\)](#) The benefits of CM/incentives for abstinence outweighed the potential harm which was small. Patient values and preferences varied somewhat on the salience of rewards. Thus, the Work Group decided upon a *Weak for* recommendation.

Recommendation

32. There is insufficient evidence to recommend either for or against the use of an opt-out approach to increase engagement in treatment for tobacco and nicotine use.

Neither for nor against | Reviewed, New-added

Discussion

The term "opt-out" refers to a patient being given treatment unless they refuse it. There were two studies evaluating an opt-out approach for engaging patients in tobacco cessation treatment in inpatient settings and a secondary analysis analyzing the impact of desire to quit on the outcomes. The results were mixed or showed no difference regarding the effect on treatment engagement after hospital discharge.

Richter et al. (2023)[\(245\)](#) compared opt-out to an opt-in strategy. Patients were provided with inpatient NRT, post-discharge prescription for NRT, 2-week starter kit, treatment planning and 4 counseling calls. They could opt-out of any or all of these offerings. The opt-in group had the same intervention options provided using an opt-in style of language, and those unwilling to quit received MI. Engagement was measured based on having one or more counseling calls within one month of discharge. Within the opt-out group, 88.7% engaged in a call compared to 37.1% in the opt-in group. The quit rate (based on biochemical confirmation) in the opt-out group was 36% higher, however, this was not statistically significant.

Gajewski et al. (2023)[\(267\)](#) performed a secondary analysis of an opt-in versus opt-out study to assess the role of an individual's desire to quit on abstinence rates, noting that those with a lower desire had lower quit rates however, there was a comparable effect of the opt-out approach regardless of level of desire to quit.

Overall, the benefits as measured by engagement in a counseling call and the suggestion (but not statistically significant) of possible higher quit rates, outweigh the harms/burdens such as cost for medication prescriptions and patients' perception of coercion to accept treatment.

An opt-out approach would align treatment for tobacco and nicotine use with other chronic disease conditions, advising a patient of the benefits of treatment and encouraging engagement and adherence. However, some patients may not be interested in having a conversation about their tobacco and nicotine use and may not appreciate a proactive/opt-out approach. There may also be a cost for medication prescriptions that the patient did not request and/or is unwilling to pay for.

The Work Group systematically reviewed evidence related to this recommendation.([244,245,267](#)) Therefore, it is categorized as *Reviewed, New-added*. The Work Group's confidence in the quality of the evidence was very low. The body of evidence had some limitations including generalizability, no difference or mixed results for the critical outcome, and small sample size.([244,245,267](#)) The benefits of an opt-out approach on treatment engagement slightly outweigh the potential harm of a patient feeling coerced. Patient values and preferences varied somewhat because some patients prefer not to discuss their tobacco or nicotine use. Thus, the Work Group decided upon a *Neither for nor against* recommendation.

X. Research Priorities

During the development of the 2026 VA/DOD Tobacco Cessation CPG, the Work Group identified topics needing additional research, including areas requiring stronger evidence to support current recommendations and research exploring new areas to guide future CPG updates.

A. Patterns of Use

The studies examined in this CPG were largely focused on cigarette smoking and abstinence outcomes measured exclusively in terms of cigarette smoking. The patterns of nicotine product use are changing among military Service members and Veterans, as well as within the US population overall, with increasing use of ENDS and nicotine pouches. Patients may be using a single product or a combination of products. However, all of these products can cause nicotine dependence and withdrawal when use is stopped.

To increase the utility of research studies to clinical decision making, researchers should aim to more broadly include participants who use various and multiple nicotine-containing products and measure the efficacy of treatment on abstinence. This may necessitate the development of new tools, such as product-agnostic measures of nicotine dependence and tests to biochemically verify abstinence from nicotine products.

B. Populations of Interest

Multiple research priorities were identified regarding populations at increased risk for tobacco use, such as those with direct combat exposure and PTSD. Given the higher prevalence of tobacco use among military Service members and Veterans, further research is needed to determine effective interventions tailored specifically to these groups. Additional studies are warranted to address the needs of individuals with co-occurring mental health conditions, AUD, and SUD, those experiencing homelessness, as well as pregnant persons, those not ready to quit, and populations differentiated by age and sex. Expanding the evidence base for these subgroups will support more targeted and effective cessation strategies.

C. Pharmacotherapy Interventions

Several pharmacologic areas were identified as research priorities. These research areas involve populations who may have been understudied or excluded from studies before, as well as atypical use patterns/products.

Future research is needed to assess the safety and effectiveness of pharmacotherapy during pregnancy. Additionally, there is a dearth of research examining pharmacotherapy interventions in people who do not use tobacco every day (non-daily use). Given that these individuals often exhibit overall different behavioral (i.e., use often described as “light”; less than 10 cigarettes a day) and demographic (i.e., Black, younger) patterns, they represent stark differences from daily use persons.⁽²⁶⁸⁾ This research would help clarify treatment protocols in those groups and may help address health inequities that have gone unexamined previously. Studies also need to explore new developments in tobacco treatment and use, such as non-FDA-approved medications (i.e., optimal duration of cytisinicline [cytisine] treatment and effectiveness trials), and non-traditional pharmacological use (i.e., bupropion for smokeless tobacco cessation). Currently, ENDS are classified as tobacco products and are not FDA-approved as treatment strategies; however, RCTs that compare ENDS to other pharmacotherapies are needed should ENDS become FDA-approved. RCTs that directly compare the effectiveness and safety of ENDS using standardized products and duration of use are also needed. Studies specifically tailored to explore the health effects of long-term use and replacing one mode of nicotine delivery for another would also be beneficial. Finally, studies on nicotine pouches and further RCTs with sufficient power exploring pharmacotherapy interventions for smokeless tobacco and novel pharmacotherapies are needed.

D. Non-Pharmacotherapy Interventions

Non-pharmacologic strategies remain an important area for further investigation. Research assessing the impact of lifestyle interventions, both independently and in combination with behavioral health support, is needed. Trials examining the effectiveness of multi-component interventions, including medication sampling and behavioral engagement strategies to increase treatment uptake, are a priority. Adaptive study designs that evaluate relapse treatment strategies or interventions are also essential.

Further evidence is needed on CM approaches needed to promote long-term abstinence, including the type and value of incentives to join or engage in treatment, duration of abstinence induction, and reinforcement schedules. Additional research should also explore the use of neuromodulation techniques such as rTMS, tDCS, and iTBS as adjuncts to evidence-based care.

Further research is recommended to evaluate intensive smoking cessation interventions independently and in combination with therapies such as health coaching, mindfulness, master resilience training (MRT)-led coaching, behavioral activation therapy, ACT, program of assertive community treatment, and CBT. Studies that evaluate the use of text messaging programs, apps, and other complementary and integrative health interventions as adjunct treatments for cessation would also be beneficial.

E. Treatment Implementation and Engagement

Research should focus on effective implementation strategies to improve treatment access and patient engagement and re-engagement. Clarifying optimal intervention parameters—including cost effectiveness, dose-response, intensity, duration, provider type, centralized care approaches to delivering outreach and treatment, opt-out treatment models, and clinical setting is essential. Studies employing equivalence testing, validated outcomes, and standardized comparisons will

strengthen the evidence base. Ensuring balanced, diverse patient samples and larger study populations will support more general recommendations for future guideline updates. Health economic and cost-effectiveness analysis is also needed in order to inform health system policy and implementation of effective clinical interventions.

Appendix A: Guideline Development Methodology

A. Developing Key Questions to Guide the Systematic Evidence Review

To guide this CPG’s systematic evidence review, the Work Group drafted 19 KQs on clinical topics of the highest priority for the VA and DOD populations. The KQs followed the population, intervention, comparison, outcome, timing, and setting (PICOTS) framework, as established by AHRQ (see [Table A-1](#)).

Table A-1. PICOTS (269)

P	Patients, Population, or Problem	Patients of interest. It includes the condition(s), populations or sub-populations, disease severity or stage, co-occurring conditions, and other patient characteristics or demographics.
I	Intervention or Exposure	Treatment (e.g., drug, surgery, lifestyle changes), approach (e.g., doses, frequency, methods of administering treatments), or diagnostic/screening test used with the patient or population.
C	Comparison	Treatment(s) (e.g., placebo, different drugs) or approach(es) (e.g., different dose, different frequency, standard of care) that are being compared with the intervention or exposure of interest described above.
O	Outcome	Results of interest (e.g., mortality, morbidity, quality of life, complications). Outcomes can include short, intermediate, and long-term outcomes.
(T)	Timing, if applicable	Duration or follow-up of interest for the particular patient intervention and outcome to occur (or not occur).
(S)	Setting, if applicable	Setting or context of interest. Setting can be a location (e.g., primary, specialty, inpatient care) or type of practice.

Abbreviations: PICOTS: population, intervention, comparison, outcome, timing, and setting

The Champions, Work Group, and Evidence Review Team carried out several iterations of this process, each time narrowing the scope of the CPG and literature review by prioritizing the topics of interest. Due to resource constraints, not all developed KQs could be included in the systematic evidence review. Thus, the Champions and Work Group determined which questions were of highest priority to include in the review. [Table A-4](#) contains the final set of KQs used to guide the systematic evidence review for this CPG.

Using the GRADE approach, the Work Group rated each outcome on a 1–9 scale (7–9, critical for decision making; 4–6, important, but not critical, for decision making; and 1–3, of limited importance for decision making). Critical and important outcomes were included in the evidence review (see [Outcomes](#)); however, only critical outcomes were used to determine the overall quality of evidence (see [Determining Recommendation Strength and Direction](#)).

a. Population(s)

The clinical population considered in this systematic review are adults (aged 18 years or older) with use of a tobacco or nicotine product of any variety. Individual KQs have additional specific criteria noted below:

- KQ1, 2, 7, 12-14, 16, 18, 19: Adult tobacco or nicotine product users who are ready to quit.

- KQ3: Adults who have relapsed after confirmed abstinence from nicotine-containing products
- KQ4: Individuals in standard population who are pregnant or lactating.
- KQ5: Individuals in standard population who are undergoing surgery (elective, non-elective)
- KQ6, 8: Individuals in standard population with a co-occurring mental health condition (including major depressive disorder, bipolar disorder, schizophrenia, post-traumatic stress disorder)
- KQ9: Individuals in the standard population who also have an alcohol use disorder or substance use disorder
- KQ10: Individuals ready to quit, with subpopulations including those with mental health disorders or substance use disorders, and pregnant/postpartum tobacco/nicotine users
- KQ11: Various subgroups (gender, racial, ethnic, gender/sexual identity, income brackets, military populations) of those ready to quit
- KQ 15 may include both patients ready to quit and those not ready to quit
- KQ18: Adult tobacco or nicotine product users not ready to quit (those who are not willing to set a quit date within 30 days)

b. Interventions and Comparators

KQ	Intervention(s)	Comparator(s)
1	<ul style="list-style-type: none"> ▪ Combination Nicotine replacement therapy (NRT) ▪ Bupropion + NRT ▪ Varenicline ▪ Varenicline + NRT ▪ Varenicline + bupropion ▪ NRT/combination NRT + varenicline + bupropion ▪ Cytisine/cytisinicline 	<ul style="list-style-type: none"> ▪ Bupropion ▪ NRT monotherapy ▪ Varenicline
2	<ul style="list-style-type: none"> ▪ Pharmacotherapy of one duration (For example, 6 weeks or 12 weeks) 	<ul style="list-style-type: none"> ▪ Same pharmacotherapy of a different duration (For example, a longer duration of 12 to 24 weeks or longer)
3	<ul style="list-style-type: none"> ▪ Cessation treatment (pharmacotherapy and behavioral counseling separate or combined) – recycling treatment, encouraging another quit attempt 	<ul style="list-style-type: none"> ▪ Placebo ▪ Usual care ▪ Preparation treatment (intermediate goal setting, e.g., reduction)
4	<ul style="list-style-type: none"> ▪ Pharmacotherapy (currently FDA approved): ▪ Varenicline ▪ NRT monotherapy or combination NRT bupropion 	<ul style="list-style-type: none"> ▪ Placebo ▪ No treatment
5	<ul style="list-style-type: none"> ▪ Pharmacotherapy (currently FDA approved): ▪ Varenicline 	<ul style="list-style-type: none"> ▪ Placebo ▪ No treatment ▪ Behavioral health interventions

KQ	Intervention(s)	Comparator(s)
	<ul style="list-style-type: none"> ▪ NRT monotherapy or combination NRT bupropion 	
6	<ul style="list-style-type: none"> ▪ Combination Nicotine replacement therapy (NRT) ▪ Bupropion + NRT ▪ Varenicline ▪ Varenicline + NRT ▪ Varenicline + bupropion ▪ NRT/combination NRT + varenicline + bupropion ▪ Cytisine/cytisinicline 	<ul style="list-style-type: none"> ▪ Bupropion ▪ NRT monotherapy ▪ Varenicline
7	<ul style="list-style-type: none"> ▪ Behavioral health intervention delivered either in-person or by video telehealth (excludes telephone counseling) 	<ul style="list-style-type: none"> ▪ Behavioral health interventions utilizing different therapeutic approaches (e.g., standard CBT vs. ACT or BA) ▪ Same Behavioral health intervention delivered at a different intensity or duration ▪ May include pharmacotherapy if the same pharmacotherapy is balanced across treatment arms
8	<ul style="list-style-type: none"> ▪ Behavioral health treatment targeting another mental health condition (depression, anxiety, etc.) that includes a cessation component 	<ul style="list-style-type: none"> ▪ Behavioral health intervention focused solely on tobacco cessation ▪ May include pharmacotherapy if the same pharmacotherapy is balanced across treatment arms
9	<ul style="list-style-type: none"> ▪ Behavioral health treatment targeting tobacco cessation for individuals receiving AUD or SUD treatment ▪ Behavioral health treatment targeting alcohol use disorder or substance use disorder together with tobacco cessation 	<ul style="list-style-type: none"> ▪ Control or comparison tobacco use treatment (e.g., medication only, education only, etc.) ▪ Behavioral health intervention focused solely on tobacco cessation ▪ May include pharmacotherapy if the same pharmacotherapy is balanced across treatment arms
10	<ul style="list-style-type: none"> ▪ Behavioral intervention incorporating CM (including financial incentives) ▪ CM (including financial incentives) included as adjunct/in addition to behavioral intervention 	<ul style="list-style-type: none"> ▪ Behavioral intervention without CM ▪ May include pharmacotherapy if the same pharmacotherapy is balanced across treatment arms
11	<ul style="list-style-type: none"> ▪ Culturally tailored behavioral intervention 	<ul style="list-style-type: none"> ▪ Standard behavioral intervention ▪ May include pharmacotherapy if the same pharmacotherapy is balanced across treatment arms
12	<ul style="list-style-type: none"> ▪ CIH intervention delivered either alone or as adjunct to behavioral intervention ▪ CIH intervention integrated within behavioral health intervention ▪ Including acupuncture, biofeedback, hypnosis, massage, mindfulness, exercise 	<ul style="list-style-type: none"> ▪ Standard tobacco cessation treatment (May include pharmacotherapy if the same pharmacotherapy is balanced across treatment arms) without CIH component ▪ Placebo/minimal treatment compared for standalone

KQ	Intervention(s)	Comparator(s)
	therapy, autogenic training, progressive relaxation, breathing exercises, guided imagery, meditation, qi gong, tai chi, and yoga.	
13	<ul style="list-style-type: none"> ■ Technology-based intervention alone or as an adjunct to standard tobacco cessation treatment (counseling/medication) (smartphone/tablet apps, text message programs, chatbots, web sites, Just-in-time-adaptive interventions, virtual reality, AI, wearable technology) 	<ul style="list-style-type: none"> ■ Standard tobacco cessation treatment without a technology component ■ No treatment/ minimal intervention
14	<ul style="list-style-type: none"> ■ Product switching to ENDS or other non-FDA-approved products ■ Vaping 	<ul style="list-style-type: none"> ■ Pharmacotherapy to include: <ul style="list-style-type: none"> ■ Varenicline ■ NRT monotherapy or combination NRT ■ Bupropion ■ Cytisine/cytisinicline
15	<ul style="list-style-type: none"> ■ Treatment engagement intervention (including proactive outreach, opt-out, motivational interviewing, NRT sampling etc.) 	<ul style="list-style-type: none"> ■ Usual care standard tobacco cessation treatment (counseling/medication) could include reactive approaches such as mailing a letter only, providing contact information for quit line etc.)
16	<ul style="list-style-type: none"> ■ Behavioral health (CBT for tobacco) intervention for tobacco/nicotine cessation combined with a lifestyle intervention focused on weight loss, diet, exercise, etc. 	<ul style="list-style-type: none"> ■ Behavioral health intervention (CBT for tobacco) for tobacco/nicotine cessation without a lifestyle intervention focused on weight loss, diet, exercise, etc. ■ May include pharmacotherapy if the same pharmacotherapy is balanced across treatment arms
17	<ul style="list-style-type: none"> ■ Transcranial magnetic stimulation (TMS) ■ Transcranial direct current stimulation (tDCS) ■ Theta burst stimulation (TBS) ■ Alone or as adjunct to cessation treatment (pharmacotherapy and/or behavioral counseling) 	<ul style="list-style-type: none"> ■ Sham TMS ■ Sham tDCS ■ Sham TBS ■ May include pharmacotherapy or other standard cessation treatment if the same treatment is balanced across treatment arms
18	<ul style="list-style-type: none"> ■ FDA-approved pharmacotherapy ■ Behavioral Interventions - individual and group ■ Motivational Interviewing ■ Rate Reduction 	<ul style="list-style-type: none"> ■ No intervention ■ Brief interventions by primary care
19	<ul style="list-style-type: none"> ■ Combination Nicotine replacement therapy (NRT) ■ Varenicline ■ Bupropion 	<ul style="list-style-type: none"> ■ Placebo ■ No treatment ■ Brief intervention

Abbreviations: ACT: acceptance and commitment therapy; AI: artificial intelligence; AUD: alcohol use disorder; BA: behavioral activation; CBT: cognitive behavioral therapy; CIH: complementary and integrative health; CM: contingency management; ENDS: electronic nicotine delivery systems; FDA: Food and Drug Administration; NRT: nicotine replacement therapy; SUD: substance abuse disorder

c. Outcomes

KQ	Critical Outcome(s)	Important Outcome(s)
1	<ul style="list-style-type: none"> ■ Abstinence (SRNT defined) ■ Duration of abstinence 	<ul style="list-style-type: none"> ■ Reduced use ■ Serious adverse events ■ Quit attempts ■ Time to relapse
2	<ul style="list-style-type: none"> ■ Abstinence (SRNT defined) ■ Duration of abstinence 	<ul style="list-style-type: none"> ■ Reduced use ■ Serious adverse events ■ Quit attempts ■ Time to relapse
3	<ul style="list-style-type: none"> ■ Abstinence (SRNT defined) ■ Duration of abstinence 	<ul style="list-style-type: none"> ■ Reduced use ■ Serious adverse events ■ Quit attempts ■ Time to relapse
4	<ul style="list-style-type: none"> ■ Abstinence (SRNT defined) ■ Duration of abstinence ■ Adverse pregnancy outcomes/Serious adverse events 	<ul style="list-style-type: none"> ■ Reduced use ■ Quit attempts ■ Time to relapse
5	<ul style="list-style-type: none"> ■ Abstinence (SRNT defined) ■ Duration of abstinence ■ Adverse surgical outcomes ■ Serious adverse events 	<ul style="list-style-type: none"> ■ Reduced use ■ Quit attempts ■ Time to relapse
6	<ul style="list-style-type: none"> ■ Abstinence (SRNT defined) ■ Duration of abstinence 	<ul style="list-style-type: none"> ■ Reduced use ■ Serious adverse events ■ Quit attempts ■ Time to relapse ■ Mental health functioning outcomes
7	<ul style="list-style-type: none"> ■ Abstinence (SRNT defined) ■ Duration of abstinence 	<ul style="list-style-type: none"> ■ Reduced use ■ Serious adverse events ■ Quit attempts ■ Time to relapse
8	<ul style="list-style-type: none"> ■ Abstinence (SRNT defined) ■ Duration of abstinence 	<ul style="list-style-type: none"> ■ Reduced use ■ Serious adverse events ■ Quit attempts ■ Time to relapse ■ Mental health functioning outcomes
9	<ul style="list-style-type: none"> ■ Abstinence (SRNT defined) ■ Duration of abstinence ■ AUD/SUD outcomes 	<ul style="list-style-type: none"> ■ Reduced use ■ Serious adverse events ■ Quit attempts ■ Time to relapse
10	<ul style="list-style-type: none"> ■ Abstinence (SRNT defined) ■ Duration of abstinence 	<ul style="list-style-type: none"> ■ Reduced use ■ Serious adverse events ■ Quit attempts ■ Time to relapse
11	<ul style="list-style-type: none"> ■ Abstinence (SRNT defined) 	<ul style="list-style-type: none"> ■ Reduced use

KQ	Critical Outcome(s)	Important Outcome(s)
	<ul style="list-style-type: none"> Duration of abstinence 	<ul style="list-style-type: none"> Serious adverse events Quit attempts Time to relapse Treatment retention (e.g. % sessions attended)
12	<ul style="list-style-type: none"> Abstinence (SRNT defined) Duration of abstinence 	<ul style="list-style-type: none"> Reduced use Serious adverse events Quit attempts Time to relapse Treatment retention/engagement
13	<ul style="list-style-type: none"> Abstinence (SRNT defined) Duration of abstinence 	<ul style="list-style-type: none"> Reduced use Serious adverse events Quit attempts Time to relapse
14	<ul style="list-style-type: none"> Abstinence (SRNT defined) Duration of abstinence Serious adverse events 	<ul style="list-style-type: none"> Reduced use Moderate adverse events Quit attempts Time to relapse
15	<ul style="list-style-type: none"> Abstinence (SRNT defined) Treatment participation/engagement 	<ul style="list-style-type: none"> Reduced use Serious adverse events Quit attempts Time to relapse
16	<ul style="list-style-type: none"> Abstinence (SRNT defined) Duration of abstinence 	<ul style="list-style-type: none"> Reduced use Serious adverse events Quit attempts Time to relapse
17	<ul style="list-style-type: none"> Abstinence (SRNT defined) Duration of abstinence 	<ul style="list-style-type: none"> Reduced use Serious adverse events Quit attempts Time to relapse Craving
18	<ul style="list-style-type: none"> Abstinence (SRNT defined) Treatment participation/engagement Quit attempts 	<ul style="list-style-type: none"> Reduced use Serious adverse events Duration of abstinence
19	<ul style="list-style-type: none"> Abstinence (SRNT defined) Duration of abstinence 	<ul style="list-style-type: none"> Reduced use Serious adverse events Quit attempts Time to relapse

Abbreviations: SRNT: Society for Research on Nicotine and Tobacco

d. Timing

KQ	Timing
KQs 1-19	Minimum of 3 months follow-up

e. Setting(s)

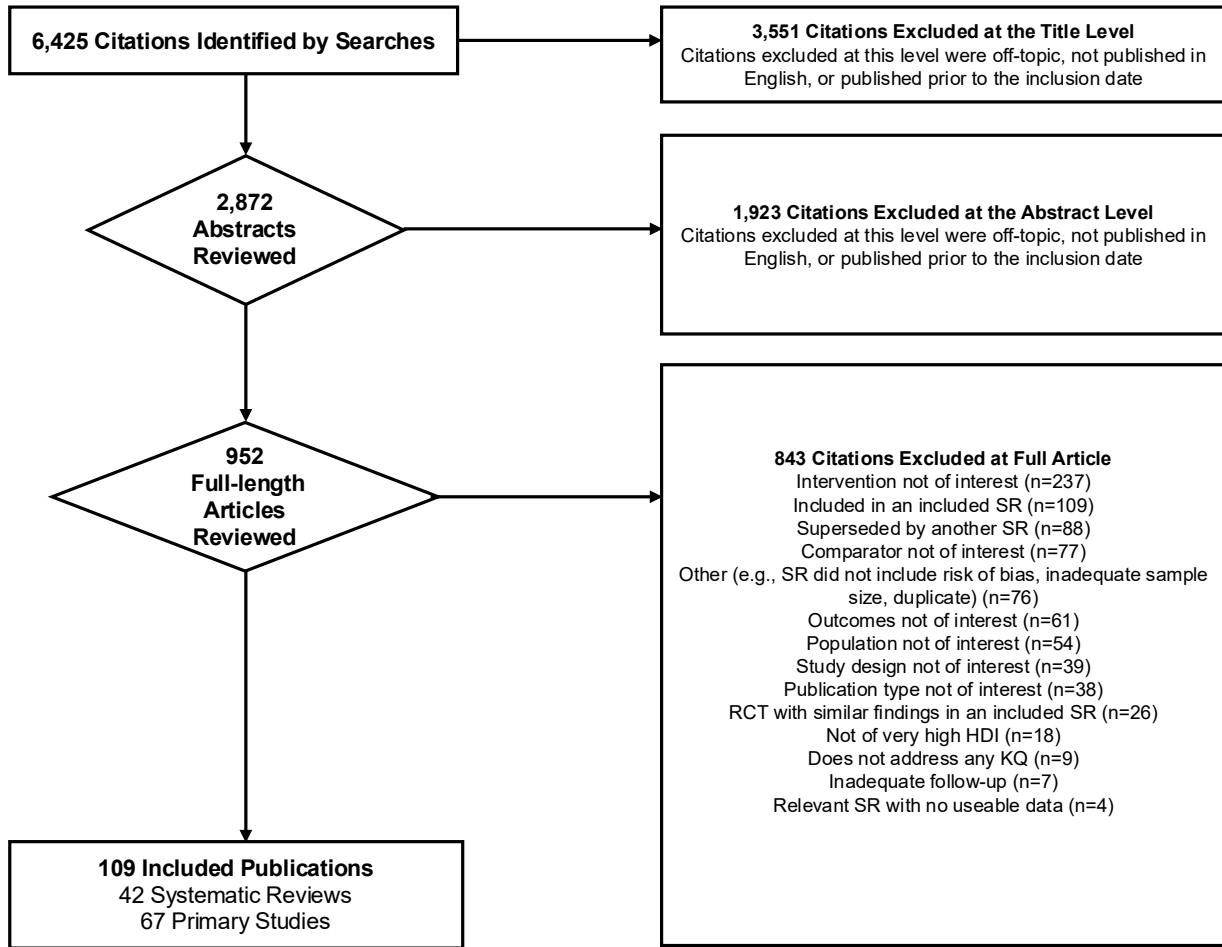
Any setting.

B. Conducting the Systematic Review

Literature searches identified 6,425 citations potentially addressing the KQs of interest for this evidence review. Of these, 3,551 were excluded upon title review for clearly not meeting inclusion criteria (e.g., not pertinent to the topic, not published in English, published prior to the study inclusion publication date, or not a full-length article). A total of 2,872 abstracts were reviewed, with 1,923 excluded at the abstract level for lack of relevance to the CPG topic, not being published in English, or publication prior to the inclusion date. A total of 952 full-length articles were reviewed. Of these, 843 were excluded for the following reasons: intervention not of interest (237), study included in an included SR (109), superseded by another SR (88), comparator not of interest (77), other (e.g., inadequate sample size, duplicate [76]), outcomes not of interest (61), population not of interest (54), study design not of interest (39), publication type not of interest (38), RCT with similar findings included in an included SR (26), not a country of very high Human Development Index (HDI) (18), does not address any KQ (9), inadequate follow-up (7), or relevant SR with no useable data (4). Detailed information on inclusions and exclusions throughout the review process are provided in [Figure A-1](#) below.

Overall, 109 publications addressed one or more of the KQs and were considered as evidence in this review, including 42 systematic reviews and 67 primary studies. [Table A-2](#) indicates the number of studies that addressed each of the questions, with some publications being used for more than one KQ.

Figure A-1. Study Flow Diagram



Abbreviations: HDI: human developmental index; KQ: key question; RCT: randomized control trial; SR: systematic review

Alternative Text Description of Study Flow Diagram

[Figure A-1. Study Flow Diagram](#) is a flow chart with nine labeled boxes linked by arrows that describe the literature review inclusion-exclusion process. Arrows point down to boxes that describe the next literature review step and arrows point right to boxes that describe the excluded citations at each step (including the reasons for exclusion and the numbers of excluded citations).

1. Box 1: 6,425 citations identified by searches.
 - a. Right to Box 2: 3,551 citations excluded at the title level. Excluded citations were off topic, not published in English, or published prior to inclusion date.
 - b. Down to box 3.
2. Box 3: 2,872 abstracts reviewed.
 - a. Right to Box 4: 1,923 citations excluded at the abstract level. Citations excluded were off topic, not published in English, or published prior to inclusion date.
 - b. Down to Box 5.
3. Box 5: 952 full-length articles reviewed.
 - a. Right to Box 6: 843 citations excluded at full-article level.
 - i. 237 intervention not of interest.
 - ii. 109 included in an included SR.
 - iii. 88 superseded by another SR.
 - iv. 77 comparator not of interest.
 - v. 76 other (e.g., SR did not include risk of bias, inadequate sample size, duplicate).
 - vi. 61 outcomes not of interest.
 - vii. 54 population not of interest.
 - viii. 39 study design not of interest.
 - ix. 38 publication type not of interest.
 - x. 26 included in an included SR.
 - xi. 18 not of very high HDI.
 - xii. 9 does not address any KQ.
 - xiii. 7 inadequate follow-up.
 - xiv. 4 relevant SR with no useable data.
 - b. Down to Box 7.
4. Box 7: 109 included publications (42 systematic reviews and 67 primary studies).

Table A-2. Evidence Base for KQs

KQ Number	KQ	Number and Study Type
1	What is the comparative safety and effectiveness of any combination of pharmacotherapies for improving abstinence from or reducing use of tobacco/nicotine?	3 SRs, 4 RCTs
2	What is the optimal duration of pharmacotherapy for reduced tobacco use and sustained abstinence?	3 SRs
3	Among patients who have stopped using nicotine-containing products and relapse after confirmed abstinence, what is the effectiveness of intervention approaches to relapse?	5 RCTs
4	Is tobacco cessation pharmacotherapy safe and effective in pregnant and lactating individuals?	2 SRs
5	Is tobacco cessation pharmacotherapy safe and effective before and during surgery (in the perioperative period)?	2 SRs
6	In adults with comorbid mental health conditions, what is the safety and effectiveness of other pharmacotherapy and NRT monotherapy for improving abstinence from tobacco/nicotine?	1 SR, 2 RCTs
7	What is the comparative effectiveness of different behavioral health interventions to treat tobacco/nicotine use?	2 SRs, 4 RCTs
8	Is treating tobacco/nicotine users with mental health conditions with combination behavioral treatments that target the mental health condition and contain a tobacco/nicotine use component more effective than behavioral health interventions that address only tobacco/nicotine use alone?	2 SRs, 5 RCTs
9	Is treating tobacco/nicotine users with alcohol use disorder or substance abuse disorder (AUD/SUD), 1) concurrently (AUD/SUD and tobacco treatment delivered at same time by separate clinicians) more effective than treatment as usual/control, or 2) with combination behavioral treatments that target AUD/SUD and contain a tobacco/nicotine use component more effective than behavioral health interventions that address only tobacco/nicotine use alone?	1 SR, 5 RCTs, 1 secondary data analysis
10	What is the comparative effectiveness of behavioral health interventions that 1) include a financial incentive/contingency management versus behavioral health intervention without a financial incentive/contingency management for treating tobacco/nicotine use, and 2) a financial incentive/contingency management included as adjunct to a behavioral health intervention versus a behavioral health intervention without a financial incentive/contingency management for treating tobacco/nicotine use?	5 SRs w/ MA, 1 SR, 1 RCT
11	What is the comparative effectiveness of culturally/socially tailored (e.g., ethnicity/race, gender/gender identity, income, military status/rank, deployment, combat exposure) behavioral interventions versus standard behavioral health interventions for treating tobacco/nicotine use?	3 SRs, 2 RCTs
12	What is the effectiveness of complementary and integrated health (CIH) interventions as a standalone or adjunct to usual care compared with usual care for abstinence from tobacco/nicotine products?	4 SRs w/ MA
13	What is the effectiveness of technology-based approaches either as a standalone or adjunct to usual care (e.g., patient-oriented technologies like smartphone apps, text message programs, telephone quit lines) compared with usual care?	2 SRs, 13 RCTs
14	What is the comparative effectiveness of ENDS, compared to pharmacotherapy, for improving abstinence from all products?	2 SRs, 1 MA

KQ Number	KQ	Number and Study Type
15	What is the effectiveness of engagement approaches, including proactive outreach, opt-out, and motivational interviewing, for increasing treatment engagement and improving abstinence from tobacco/nicotine?	1 SR, 20 RCTs
16	What is the comparative effectiveness of evidence-based behavioral health interventions plus a lifestyle intervention (e.g., weight loss, diet, exercise) interventions versus behavioral health intervention alone for improving abstinence from tobacco/nicotine?	2 SRs, 1 RCT
17	What is the effectiveness of non-invasive brain stimulation for improving abstinence from tobacco/nicotine?	3 SRs
18	What is the safety and effectiveness of tobacco use interventions in those not ready to quit?	2 SRs
19	What is the safety and effectiveness of pharmacotherapies for improving abstinence from or reducing use of non-combustible tobacco/nicotine products?	2 SRs
Total Evidence Base		42 SRs, 62 RCTs, 1 secondary analysis, 1 MA

*Some publications addressed more than one KQ.

Abbreviations: AUD: alcohol use disorder; KQ: key question; ENDS: electronic nicotine delivery systems; MA: meta-analysis; NRT: nicotine replacement therapy; RCT: randomized controlled trial; SR: systematic review; SUD: substance use disorder

a. General Criteria for Inclusion in Systematic Evidence Review

- Randomized control trials (RCTs) or systematic reviews (SRs) of RCTs published on or after January 1, 2014, to December 10, 2024. If multiple systematic reviews addressed a KQ, we selected the most recent and/or comprehensive review. Studies that were published outside of the search window could have been included in SRs.
- Studies must have been published in English.
- Publication must have been a full clinical study or SR; abstracts alone were not included. Similarly, letters, editorials, research protocols, and other publications that were not full-length clinical studies were not accepted as evidence.
- Systematic reviews must have searched MEDLINE or EMBASE for eligible publications, performed a risk of bias assessment of included studies, and assessed the quality of evidence using a recognizable rating system, such as GRADE or something compatible (e.g., the one used by the Evidence-based Practice Centers of the Agency for Healthcare Research and Quality). If an existing review did not assess the overall quality of the evidence, evidence from the review must be reported in a manner that allowed us to judge the overall risk of bias, consistency, directness, and precision of evidence. We did not use an existing review as evidence if we are not able to assess the overall quality of the evidence in the review.
- RCTs must have had an independent control group. Randomized crossover trials were only included if data from the first period (prior to treatment crossover) was reported separately and an adequate washout period was used.

- Studies must have enrolled at least 20 patients (10 per study group for RCTs) unless otherwise noted.
- Studies must have enrolled at least 85% of patients who meet the study population criteria: adults aged 18 years or older with use of a tobacco or nicotine product of any variety, or the population appropriate to the KQ. If the patient population fell below this threshold, but the relevant population of patients who meet the criteria are reported separately, then that study was included. Studies focused on subpopulations not specified in any of the KQs were excluded.
- To ensure applicability to the VA/DOD healthcare systems and consistency across the CPG program, inclusion of individual studies was limited to very high HDI countries with an index ≥ 0.8 where standards of healthcare are comparable (e.g., U.S., Canada, United Kingdom, Western Europe, Israel, Japan, Hong Kong, Australia, and New Zealand). Inclusion of SRs was limited to those in which more than half of the included studies were from eligible regions.
- These regions of interest are listed in Table 1 of the Statistical Annex of the [2023/24 Human Development Report](#) produced by the United Nations Development Program.
- Study must have reported on at least one outcome of interest.
- Studies must not have received funding by tobacco/nicotine product manufacturers. SRs where 50% or more of the studies were funded by product manufacturers were excluded.

b. Literature Search Strategy

Information regarding the bibliographic databases, date limits, and platform/provider can be found in [Table A-3](#), below. Additional information on the search strategies, including topic-specific search terms and search strategies can be found in [Appendix E](#).

Table A-3. Bibliographic Database Information

	Name	Date Limits	Platform/ Provider
Bibliographic Databases	Embase	January 1, 2014, to December 31, 2024	Elsevier
	PsycInfo	January 1, 2014, to December 31, 2024	Ebsco
	PubMed	January 1, 2014, to December 12, 2024	PubMed
Gray Literature Databases	Agency for Healthcare Research and Quality (AHRQ) Evidence-Based Practice Center Reports	January 1, 2014, to December 31, 2024	AHRQ
	Cochrane Database of Systematic Reviews	January 1, 2014, to December 31, 2024	Cochrane Library

	Name	Date Limits	Platform/ Provider
	Veterans Affairs Evidence Synthesis Program (VA ESP)	January 1, 2014, to December 31, 2024	VA ESP

c. Rating the Quality of Individual Studies and the Body of Evidence

Sigma Health Consulting assessed the methodological risk of bias of individual diagnostic, observational, and interventional studies using the USPSTF method. Each study is assigned a rating of *Good*, *Fair*, or *Poor* based on a set of criteria that vary depending on study design. Detailed lists of criteria and definitions appear in Appendix VI of the USPSTF procedure manual.[\(113\)](#)

Next, Sigma Health Consulting assessed the overall quality of the body of evidence for each critical and important outcome using the GRADE approach. This approach considers the following factors: overall study quality (or overall risk of bias or study limitations), consistency of evidence, directness of evidence, and precision of evidence. The overall quality of the body of evidence is rated as *High*, *Moderate*, *Low*, and *Very Low*.

C. Developing Evidence-Based Recommendations

In consultation with the VA Office of Quality and Patient Safety and the Clinical Quality Improvement Program, Defense Health Agency, and Sigma Health Consulting convened a 3.5 day in-person recommendation development meeting from June 3-6, 2025, to develop this CPG's evidence-based recommendations. Two weeks before the meeting, Sigma Health Consulting finalized the systematic evidence review and distributed the report to the Work Group; findings were also presented during the recommendation development meeting.

Led by the Champions, the Work Group interpreted the systematic evidence review's findings and developed this CPG's recommendations. The strength and direction of each recommendation were determined by assessing the quality of the overall evidence base, the associated benefits and harms, patient values and preferences, and other implications (see [Determining Recommendation Strength and Direction](#)).

a. Determining Recommendation Strength and Direction

Per GRADE methodology, to assess the quality of the evidence base and assign a grade for the strength for each recommendation, the GRADE system uses the following four domains to assess the strength of each recommendation [\(108\)](#):

1. Confidence in the Quality of the Evidence

Confidence in the quality of the evidence reflects the quality of the evidence base and the certainty in that evidence. This second domain reflects the methodological quality of the studies for each outcome variable. In general, the strength of recommendation follows the level of evidence, but not always, as other domains may increase or decrease their strength. The evidence review used for the development of recommendations for tobacco cessation

management, conducted by Sigma Health Consulting, assessed the confidence in the quality of the evidence base and assigned a rate of “High,” “Moderate,” “Low,” or “Very low.”

The elements that go into the confidence in the quality of the evidence include:

- Is there high or moderate quality evidence that answers this question?
- What is the overall certainty of this evidence?

2. Balance of Desirable and Undesirable Outcomes

Balance of desirable and undesirable outcomes refers to the size of anticipated benefits (e.g., increased longevity, reduction in morbid event, resolution of symptoms, improved quality of life, decreased resource use) and harms (e.g., decreased longevity, immediate serious complications, adverse event, impaired quality of life, increased resource use, inconvenience/hassle) relative to each other. This domain is based on the understanding that most providers will offer patients therapeutic or preventive measures if the advantages of the intervention exceed the risks and adverse effects. The certainty or uncertainty of the provider about the risk-benefit balance will greatly influence the strength of the recommendation.

Some of the discussion questions that fall under this domain include:

- Given the best estimate of typical values and preferences, are you confident that the benefits outweigh the harms and burden or vice versa?
- Are the desirable anticipated effects large?
- Are the undesirable anticipated effects small?
- Are the desirable effects large relative to undesirable effects?

3. Patient Values and Preferences

“Patient values and preferences” is an overarching term that includes patients’ perspectives, beliefs, expectations, and goals for health and life. More precisely, it refers to the processes that individuals use in considering the potential benefits, harms, costs, limitations, and inconvenience of the therapeutic or preventive measures in relation to one another. For some, the term “values” has the closest connotation to these processes. For others, the connotation of “preferences” best captures the notion of choice. In general, values and preferences increase the strength of the recommendation when there is high concordance and decrease it when there is great variability. In a situation in which the balance of benefits and risks are uncertain, eliciting the values and preferences of patients and empowering them and their surrogates to make decisions consistent with their goals of care becomes even more important. A recommendation can be described as having “similar values,” “some variation,” or “large variation” in typical values and preferences between patients and the larger populations of interest.

Some of the discussion questions that fall under the purview of values and preferences include:

- Are you confident about the typical values and preferences and are they similar across the target population?
- What are the patient’s values and preferences?

- Are the assumed or identified relative values similar across the target population?

4. Other Implications

Other implications consider the practicality of the recommendation, including resources use, equity, acceptability, feasibility and subgroup considerations. Resource use is related to the uncertainty around the cost-effectiveness of a therapeutic or preventive measure. For example, statin use in the frail elderly and others with multiple co-occurring conditions might not be effective and depending on the societal benchmark for willingness to pay, might not be a good use of resources. Equity, acceptability, feasibility, and subgroup considerations require similar judgments around the practicality of the recommendation.

The framework below ([Table A-4](#)) was used by the Work Group to guide discussions on each domain.

Table A-4. GRADE Evidence to Recommendation Framework

Decision Domain	Questions to Consider	Judgement
Balance of desirable and undesirable outcomes	<ul style="list-style-type: none"> ■ What is the magnitude of the anticipated desirable outcomes? ■ What is the magnitude of the anticipated undesirable outcomes? ■ Given the best estimate of typical values and preferences, are you confident that benefits outweigh harms/burdens or vice versa? 	<ul style="list-style-type: none"> ■ Benefits outweigh harms/burdens ■ Benefits slightly outweigh harms/burdens ■ Benefits and harms/burden are balanced ■ Harms/burden slightly outweigh benefits ■ Harms/burden outweigh benefits
Confidence in the quality of evidence	<ul style="list-style-type: none"> ■ Among the designated critical outcomes, what is the lowest quality of relevant evidence? ■ How unlikely is further research to change the confidence in the estimate of effect? 	<ul style="list-style-type: none"> ■ High ■ Moderate ■ Low ■ Very low
Patient values and preferences	<ul style="list-style-type: none"> ■ Are you confident about the typical values and preferences and are they similar across the target population? ■ What are the patient’s values and preferences? ■ Are the assumed or identified relative values similar across the target population? 	<ul style="list-style-type: none"> ■ Similar values ■ Some variation ■ Large variation
Other implications (e.g., resource use, equity, acceptability, feasibility, subgroup considerations)	<ul style="list-style-type: none"> ■ Are the resources worth the expected net benefit from the recommendation? ■ What are the costs per resource unit? ■ Is this intervention generally available? ■ Is this intervention and its effects worth withdrawing or not allocating resources from other interventions? ■ Is there lots of variability in resource requirements across settings? 	Various considerations

b. Recommendation Categorization

A summary of the recommendation categories and definitions is available in [Table 4](#). For this new CPG, all recommendations were categorized as Reviewed, New-added (see [Recommendations](#)). *Reviewed*, *New-added* recommendations are original, new recommendations based entirely on evidence included in the systematic evidence review.

c. Drafting and Finalizing the Guideline

Following the face-to-face meeting, the Champions and Work Group members were given writing assignments to craft discussion sections to support each of the new recommendations. The Work Group also created tables, appendices, and other sections for inclusion in the 2026 VA/DOD Tobacco Use Treatment CPG for inclusion. During this time, the Champions and Work Group also created an algorithm.

After developing the initial draft of the CPG, an iterative review process was used to solicit feedback on and revise the CPG. Once they were developed, the first two drafts of the CPG were posted on the Tobacco Cessation Wiki Website for a period of 14-20 business days for internal review and comment by the Work Group. All feedback submitted during each review period was reviewed and discussed by the Work Group, and appropriate revisions were made to the CPG. Following the Draft 3 review and comment period, the Work Group reviewed external feedback and created a final draft of the CPG. The Champions then presented the CPG to the VA/DOD EBPWG for approval, and the final CPG was approved in December 2025. To accompany the CPG, the Work Group produced toolkit products, including a provider summary, quick reference guide, and patient summary.

Appendix B: Evidence Table

Table B-1. 2026 Tobacco Cessation Evidence Table ^{a, b, c}

#	2026 Recommendation	Evidence	2026 Strength of Recommendation	2026 Recommendation Category
1.	We suggest using motivational interviewing to increase engagement in treatment for tobacco and nicotine use.	(123-126) Additional References (122)	Weak for	Reviewed, New-added
2.	We recommend the use of FDA-approved pharmacotherapies (e.g., bupropion sustained release, nicotine replacement therapy [NRT], and varenicline) for increasing abstinence from combustible tobacco.	(128-130) Additional References (127)(131,134,135)	Strong for	Reviewed, New-added
3.	For patients using nicotine replacement therapy (NRT), we recommend combination therapy (e.g., patch and short-acting NRT) over single NRT products for increasing abstinence from combustible tobacco.	(128)	Strong for	Reviewed, New-added
4.	For patients receiving a single medication, we recommend varenicline over other monotherapies (e.g., bupropion sustained release; single-agent nicotine replacement therapy [NRT]) for increasing abstinence from combustible tobacco.	(129,130,132,136)	Strong for	Reviewed, New-added
5.	In patients using bupropion sustained release, we suggest extending use beyond 12 weeks to maintain abstinence from combustible tobacco.	(137) Additional References (138,139)	Weak for	Reviewed, New-added
6.	There is insufficient evidence to recommend for or against the extended use of varenicline or nicotine replacement therapy beyond standard duration of therapy (12 weeks) to achieve abstinence from combustible tobacco.	(128,130,137,140)	Neither for nor against	Reviewed, New-added
7.	We suggest using varenicline or nicotine replacement therapy (NRT) for increasing abstinence from electronic nicotine delivery systems (ENDS).	(141,142) Additional References (143-145)	Weak for	Reviewed, New-added

#	2026 Recommendation	Evidence	2026 Strength of Recommendation	2026 Recommendation Category
8.	We suggest using nicotine replacement therapy (NRT) for increasing abstinence from smokeless tobacco.	(146-149 , 151,152)(148,149)	Weak for	Reviewed, New-added
9.	We recommend using varenicline for increasing abstinence from smokeless tobacco.	(146,153,154)	Strong for	Reviewed, New-added
10.	We suggest varenicline be started prior to surgery to assist patients in quitting tobacco use.	(3,6, 155,156)	Weak for	Reviewed, New-added
11.	There is insufficient evidence to recommend for or against the use of nicotine replacement therapy (NRT) or bupropion for tobacco cessation in the perioperative period.		Neither for nor against	Reviewed, New-added
12.	We suggest against electronic nicotine delivery systems (ENDS) products for improving abstinence from tobacco and nicotine products. (ENDS is classified as a tobacco product and is not FDA approved for any use).	(157-159) Additional References (160-165,171-174)	Weak against	Reviewed, New-added
13.	We recommend more intensive behavioral counseling (at least four encounters) as compared to less intensive counseling to increase abstinence from tobacco and nicotine products.	(175,176)	Strong for	Reviewed, New-added
14.	We suggest using text messaging (SMS) programs to increase abstinence from tobacco and nicotine products.	(177-181) Additional References (57,182,183)	Weak for	Reviewed, New-added
15.	There is insufficient evidence to recommend any specific behavioral counseling intervention over standard cognitive behavior therapy for tobacco cessation.	(176,184-187)	Neither for nor against	Reviewed, New-added
16.	There is insufficient evidence to recommend for or against adding lifestyle interventions (e.g., diet, exercise) to behavioral counseling for tobacco cessation.	(188-191)	Neither for nor against	Reviewed, New-added

#	2026 Recommendation	Evidence	2026 Strength of Recommendation	2026 Recommendation Category
17.	There is insufficient evidence to recommend either for or against smartphone apps for increasing abstinence from tobacco and nicotine products.	(177 , 178 , 192-194)	Neither for nor against	Reviewed, New-added
18.	If patients return to tobacco use, we suggest immediate repeat treatment with pharmacotherapy and counseling.	(7 , 195 , 196)	Weak for	Reviewed, New-added
19.	In patients not ready to quit (e.g., in the next 30 days), we suggest nicotine replacement therapy (NRT) to increase quit attempts.	(197 , 199) Additional References	Weak for	Reviewed, New-added
20.	In patients not ready to quit (e.g., in the next 30 days), we suggest varenicline to increase quit attempts and abstinence from tobacco and nicotine products.	(198)	Weak for	Reviewed, New-added
21.	There is insufficient evidence to recommend either for or against medication sampling for increasing treatment engagement.	(200-204)	Neither for nor against	Reviewed, New-added
22.	In patients with stable mental health conditions, we suggest treating tobacco use with pharmacotherapy.	(136, 205 , 206)	Weak for	Reviewed, New-added
23.	In patients with stable mental health conditions, we recommend varenicline over single agent nicotine replacement therapy (NRT) or bupropion sustained release to improve continuous abstinence.		Strong for	Reviewed, New-added
24.	We suggest counseling be adapted to address both tobacco use and co-occurring serious mental illness (e.g., bipolar disorder, schizophrenia, other psychotic disorders).	(207-210)(208-211) Additional References (209-212)	Weak for	Reviewed, New-added
25.	In patients being treated for alcohol use disorder/substance use disorder, we suggest concurrently treating tobacco use with behavioral counseling and pharmacotherapy.	(216-221)	Weak for	Reviewed, New-added
26.	There is insufficient evidence to recommend for or against counseling that combines treatment for tobacco use and depression or post-traumatic stress disorder compared to standard tobacco cessation counseling.	(222-224 , 226) Additional References (225),(226)	Neither for nor against	Reviewed, New-added

#	2026 Recommendation	Evidence	2026 Strength of Recommendation	2026 Recommendation Category
27.	There is insufficient evidence to recommend for or against the effectiveness of bupropion or nicotine replacement therapy for tobacco cessation during pregnancy.	(227,228) Additional References (229,230)	Neither for nor against	Reviewed, New-added
28.	As a standalone therapy, we suggest against acupuncture, mindfulness, or hypnotherapy for abstinence from tobacco and nicotine products.	(231-234)	Weak against	Reviewed, New-added
29.	There is insufficient evidence to recommend either for or against repetitive transcranial magnetic stimulation, transcranial direct current stimulation, and intermittent theta burst stimulation for abstinence from tobacco and nicotine products, reduced use, or cravings.	(235-237)	Neither for nor against	Reviewed, New-added
30.	We recommend using proactive outreach to increase engagement in treatment for tobacco and nicotine use.	(49,124,196,238,241,244)	Strong for	Reviewed, New-added
31.	We suggest the use of contingency management or incentives in combination with behavioral counseling and pharmacotherapy for treating tobacco and nicotine use.	(248-253,261,262) Additional References (246,247,263-266)	Weak for	Reviewed, New-added
32.	There is insufficient evidence to recommend either for or against the use of an opt-out approach to increase engagement in treatment for tobacco and nicotine use.	(245,267)	Neither for nor against	Reviewed, New-added

^a Evidence column: The first set of references listed in each row in the evidence column constitutes the evidence base for the recommendation. To be included in the evidence base for a recommendation, a reference needed to be identified through a systematic evidence review carried out as part of the initial development or update of this CPG. The second set of references in the evidence column (called “Additional References”) includes references that provide additional information related to the recommendation, but which were not identified through a systematic evidence review. These references were, therefore, not included in the evidence base for the recommendation and did not influence the strength and direction of the recommendation.

^b 2026 Strength of Recommendation column: The 2026 VA/DOD Tobacco Use Treatment CPG was developed using the GRADE approach to determine the strength of each recommendation. Refer to the Grading Recommendations section for more information.

^c Recommendation Category column: Refer to the Recommendation Categorization section for more information on the description of the categorization process and the definition of each category

Appendix C: Participant List

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Appendix D: Patient Focus Group Methods and Findings

A. Methods

VA and DOD Leadership recruited four participants for the focus group with support from the Champions and other Work Group members as needed. The goal of recruitment for this Patient Focus Group was to have a group of engaging, diverse patients receiving VA or DOD healthcare services, who could cogently explain their experience with tobacco cessation. Participants were mixed in terms of receiving care from the VA and DOD. Participants began using tobacco earlier in life, and two participants had successfully quit using all tobacco products at the time of the Patient Focus Group, with the other two currently attempting to quit. All the participants experienced relapse in their previous efforts to quit.

The Work Group, with support from Sigma Health Consulting, identified topics on which participants' input was important to consider in developing the CPG. Sigma Health Consulting developed, and the Work Group approved, an interview guide covering these topics. The focus group facilitator who led the discussion used the guide to elicit the participants' perspectives about their treatment and overall care. Not all questions included in the Moderator's Guide for the Tobacco Cessation Patient Focus Group were addressed by participants, but because the moderator encouraged conversation between the Patient Focus Group members, most topics were covered.

B. Patient Focus Group Findings

a. Participants emphasized the importance of an individualized treatment plan that reflects patient preferences and characteristics.

- Patients emphasized the need for a personalized treatment plan for tobacco.
- Participants noted that tobacco use is different for every individual and that providers should actively solicit and listen to their treatment needs and preferences.
- Patients highlighted the value of guidance from their care team during treatment.

b. Participants explained the financial barriers associated with accessing medications for treatment.

- Patients highlighted the need for medications (pills, gums, lozenges, patches, etc.) but they were not covered by either Medicare or Tricare.
- Patients stated that financial struggles can cause inability to access and/or delays in obtaining medications.
- Participants explained the extensive time and effort it takes to search for discounts on tobacco cessation medication.

c. Participants highlighted the value of a multidisciplinary team approach and multicomponent therapy options within their treatment plan.

- Participants appreciated the multidisciplinary approach, involving various specialists, for providing comprehensive support in their tobacco cessation journey.

- Multicomponent therapy options, including pharmaceuticals, education, psychotherapy, and alternative treatments, were used by participants with varying success. Vaping was generally rejected as a cessation strategy.

d. Participants discussed major life events as key motivators to quit smoking.

- Family dynamics and environmental changes, such as marriage, children, and retirement significantly influenced participants' desire to quit smoking.
- Health concerns, such as lung lesions and surgery complication risks, motivated participants to quit.

e. Participants mentioned the stigma they face from both former smokers and non-smokers which contributes to social and mental health challenges.

- Participants felt stigmatized by current societal views on smoking, noting that the cultural normalization of smoking in their youth is often overlooked.
- After quitting, participants found second-hand smoke offensive and advocated for supporting, rather than judging current smokers in their efforts to quit.

Appendix E. Literature Review Search Terms and Strategy

A. Resources Searched

Sigma’s Information Specialist searched the following databases for relevant information (see [Table E-1](#)).

Table E-1. Databases Searched

Bibliographic Database	Date Limits	Platform/Provider
EMBASE	2014-2024	Elsevier
PsycInfo	2014-2024	Ebsco
PubMed	01/01/2014-12/12/24	PubMed

Gray Literature Resources	Date Limits	Platform/Provider
AHRQ Evidence-based Practice Center Reports	2014-2024	AHRQ
Cochrane Database of Systematic Reviews	2014-2024	Cochrane Library
VA Evidence Synthesis Program Reports	2014-2024	VA ESP

B. Search Strategies

The search strategies for bibliographic databases employed combinations of free-text keywords as well as controlled vocabulary terms including, but not limited to, the concepts detailed in [Tables E-2, E-3, E-4, E-5, E-6, and E-7](#).

Table E-2. EMBASE SEARCH STRATEGY (EMTREE SYNTAX)

Search #	Query	Results
#36	#34 OR #35	3841
#35	#33 AND ('randomized controlled trial'/exp OR 'randomization'/de OR 'double blind procedure'/de OR 'single blind procedure'/de OR 'placebo'/de OR 'crossover procedure'/de OR placebo* OR random*:de,ti OR crossover OR 'cross over' OR ((singl* OR doubl* OR tripl* OR trebl*) NEAR/3 (blind* OR mask* OR sham*)) OR 'latin square' OR isrtcn* OR actrn* OR (nct* NOT nct))	2974
#34	#33 AND ('research synthesis' OR 'systematic review'/exp OR 'systematic review' OR 'meta analysis'/exp OR 'meta analysis' OR cochrane)	1337
#33	#32 NOT (abstract:nc OR annual:nc OR 'book'/de OR 'case report'/de OR 'case study'/de OR conference:nc OR 'conference abstract':it OR 'conference paper'/de OR 'conference paper':it OR 'conference proceeding':pt OR 'conference review':it OR congress:nc OR 'editorial'/de OR editorial:it OR 'erratum'/de OR letter:it OR 'note'/de OR note:it OR meeting:nc OR sessions:nc OR 'short survey'/de OR symposium:nc)	17135

Search #	Query	Results
#32	#31 NOT (adolescen*:ti OR babies:ti OR baby:ti OR boys:ti OR child*:ti OR girls:ti OR infancy:ti OR infant*:ti OR juvenile*:ti OR neonat*:ti OR newborn*:ti OR nurser*:ti OR paediatric*:ti OR pediatric*:ti OR preschool*:ti OR 'school age*':ti OR schoolchildren*:ti OR teen*:ti OR toddler*:ti OR youth*:ti)	26266
#31	(#5 OR #7 OR #13 OR #15 OR #17 OR #19 OR #21 OR #23 OR #25 OR #27 OR #29) AND [english]/lim AND [01-01-2014]/sd NOT [12-12-2024]/sd AND [2014-2024]/py	28375
#30	#5 OR #7 OR #13 OR #15 OR #17 OR #19 OR #21 OR #23 OR #25 OR #27 OR #29	51101
#29	#3 AND #28 AND (#4 OR #6)	430
#28	(quit* NEAR/5 ('not ready' OR prepare OR readiness OR unsure OR unwilling)) OR ambivalent:ti,ab OR contemplative:ti,ab OR 'pre-contemplative':ti,ab	6882
#27	#3 AND #26	224
#26	'transcranial direct current stimulation'/exp OR 'transcranial magnetic stimulation'/exp OR 'theta burst stimulation'/exp OR 'non-invasive brain stimulation':ti,ab OR 'noninvasive brain stimulation':ti,ab OR 'transcranial direct current stimulation':ti,ab OR 'transcranial magnetic stimulation':ti,ab OR 'theta burst stimulation':ti,ab OR rtms:ti,ab OR tms:ti,ab OR tbs:ti,ab	64262
#25	#3 AND #24	6899
#24	'exercise'/exp OR 'lifestyle modification'/exp OR 'weight loss program'/exp OR diet:ti,ab OR exercise:ti,ab OR 'physical activity':ti,ab OR 'weight loss':ti,ab OR 'weight management':ti,ab OR 'weight reduction':ti,ab	1492519
#23	#3 AND #22	1418
#22	'patient engagement'/exp OR 'motivational interview*':ti,ab OR 'nrt sampling':ti,ab OR outreach:ti,ab OR 'patient engagement':ti,ab OR proactiv*:ab,ti OR 'opt-in':ti,ab OR 'opt-out':ti,ab OR 'treatment engagement':ti,ab	92272
#21	#3 AND (#4 OR #20)	24943
#20	electronic cigarette'/exp OR 'ecig*':ti,ab OR 'e cig*':ti,ab OR 'electronic nicotine delivery system*':ti,ab OR 'electronic nicotine device*':ti,ab OR 'hookah pen*':ti,ab OR (vap*:ti,ab AND (mod*:ti,ab OR tank*:ti,ab)) OR vap*:ti,ab	100713
#19	#3 AND #18	28475

Search #	Query	Results
#18	app*:ti,ab OR 'app based':ti,ab OR ai:ab,ti OR 'artificial intelligence':ab,ti OR 'cell phone*':ab,ti OR chatbot*:ti,ab OR mhealth*:ab,ti OR mobile:ab,ti OR smartphone*:ti,ab OR sms:ti,ab OR tablet*:ab,ti OR text*:ti,ab OR 'virtual reality':ti,ab OR wearable*:ti,ab OR 'web site*':ti,ab OR website*:ti,ab	11318467
#17	#3 AND #16	882
#16	'acupuncture'/exp OR 'autogenic training'/exp OR 'biofeedback'/exp OR 'breathing exercise'/exp OR 'kinesiotherapy'/exp OR 'guided imagery'/exp OR 'hypnosis'/exp OR 'massage'/exp OR 'meditation'/exp OR 'mindfulness'/exp OR 'qigong'/exp OR 'tai chi'/exp OR acupuncture:ti,ab OR 'autogenic training':ti,ab OR biofeedback:ti,ab OR 'breathing exercise*':ti,ab OR 'exercise therapy':ti,ab OR 'guided imagery':ti,ab OR hypnosis:ti,ab OR hypnotherap*:ti,ab OR massage:ti,ab OR meditation:ti,ab OR mindfulness:ti,ab OR 'progressive relaxation':ti,ab OR 'qi gong':ti,ab OR qigong:ti,ab OR 'tai chi':ti,ab OR yoga:ti,ab	259311
#15	#7 AND #14	65
#14	'transcultural care'/exp OR (cultur* NEAR/5 (competen* OR design* OR tailor*))	34632
#13	#7 AND (#11 OR #12)	7366
#12	'substance use'/exp OR 'drug abuse':ti,ab OR 'drug addiction':ti,ab OR 'drug dependence':ti,ab OR 'drug us*':ti,ab OR 'substance abuse':ti,ab OR 'substance misuse':ti,ab OR 'substance-related use':ti,ab OR 'substance us*':ti,ab	873039
#11	'alcoholism'/exp OR 'alcohol abuse':ti,ab OR 'alcohol associated condition*':ti,ab OR 'alcohol misuse':ti,ab OR 'alcohol use disorder':ti,ab OR alcoholism:ti,ab	182931
#10	#7 AND #8 AND #9	553
#9	'relapse'/exp OR relaps*:ti OR recurr*:ti,ab OR reocurr*:ti,ab OR (treatment NEAR/5 fail*)	1555595
#8	'abstinence'/exp OR abstain*:ti,ab OR abstinen*:ti,ab OR 'point prevalence':ti,ab OR 'smoking cessation':ti,ab	92954
#7	#3 AND #6	10856
#6	'behavior change'/exp OR 'behavior modification'/exp OR 'cognitive behavioral therapy'/exp OR 'contingency management'/exp OR 'counseling'/exp OR 'lifestyle modification'/exp OR 'motivational interviewing'/exp OR 'behavior change':ti,ab OR (behavioral NEAR/3 (intervention* OR treatment* OR	492199

Search #	Query	Results
	therap*) OR 'behavior modification':ti,ab OR 'cognitive behavioral therap*':ti,ab OR 'community reinforcement approach*':ti,ab OR 'contingency management':ti,ab OR counseling:ti,ab OR counselling:ti,ab OR 'financial incentive*':ti,ab OR 'motivational enhancement therapy*':ti,ab OR 'motivational interview*':ti,ab OR quitline:ti,ab OR 'quit line':ti,ab OR ((recycle OR repeat) NEAR/2 (coach* OR counsel* OR intervention* OR therap* OR treat* OR train*))	
#5	#3 AND #4	19515
#4	'amfebutamone'/exp OR 'cytisinicline'/exp OR 'nicotine gum'/exp OR 'nicotine inhaler'/exp OR 'nicotine lozenge'/exp OR 'nicotine patch'/exp OR 'varenicline'/exp OR 'nicotine replacement therapy'/exp OR 'drug therapy'/exp OR bupropion:ti,ab OR cytosine:ti,ab OR cytisinicline:ti,ab OR 'drug therap*':ti,ab OR 'drug treatment*':ti,ab OR medication*':ti,ab OR (monothotherapy NEAR/5 (nrt OR 'nicotine replacement therapy')) OR 'nicotine gum*':ti,ab OR 'nicotine inhaler*':ti,ab OR 'nicotine lozenge*':ti,ab OR 'nicotine replacement therap*':ti,ab OR nrt:ti,ab OR patch*':ti,ab OR pharmacotherapy:ti,ab OR varenicline:ti,ab	4652330
#3	#1 AND #2	88404
#2	'tobacco cessation'/exp OR 'smoking cessation'/exp OR ((tobacco:ti,ab OR smoking:ti,ab) AND (abstain*':ti,ab OR abstin*':ti,ab OR ceas*':ti,ab OR cessat*':ti,ab OR 'cut down':ti,ab OR limit*':ti,ab OR quit*':ti,ab OR reduc*':ti,ab OR stop*':ti,ab))	205020
#1	'nicotine gel*':ti,ab OR 'nicotine pouch*':ti,ab OR 'heat not burn':ti,ab OR 'heated tobacco product*':ti,ab OR 'non-combust*':ti,ab OR (tobacco:ti,ab AND (chew*':ti,ab OR dip*':ti,ab OR dissolv*':ti,ab OR gutkha:ti,ab OR oral*':ti,ab OR smokeless:ti,ab OR snuff:ti,ab OR snus:ti,ab OR spit:ti,ab OR suck*':ti,ab)) OR (tobacco:ti,ab AND (hooka*':ti,ab OR narghile*':ti,ab OR shisha*':ti,ab OR sheesha*':ti,ab OR waterpipe*':ti,ab)) OR ((nicotine:ti,ab OR 'nicotine'/exp) AND ('e cig*':ti,ab OR 'ecig':ti,ab OR 'electronic nicotine delivery system*':ti,ab OR 'electronic nicotine device*':ti,ab OR 'hookah pen*':ti,ab OR (vap*':ti,ab AND (mod*':ti,ab OR tank*':ti,ab)) OR vap*':ti,ab)) OR (tobacco:ti,ab AND (bidi*':ti,ab OR cigar*':ti,ab OR cheroot*':ti,ab OR consum* OR kretek*':ti,ab OR pipe*':ti,ab OR product*':ti,ab OR 'roll your own':ti,ab OR smok*':ti,ab OR us*':ti,ab OR smoking:ti,ab)) OR 'cigarette smoking'/exp OR 'electronic cigarette'/exp OR 'hookah'/exp OR 'nicotine'/exp OR 'smokeless tobacco'/exp OR 'smoking device'/exp OR 'tobacco'/exp OR 'vaping'/exp OR 'waterpipe smoking'/exp OR 'tobacco dependence'/exp OR 'nicotine addiction':ti,ab OR 'nicotine	271598

Search #	Query	Results
	dependence':ti,ab OR 'tobacco dependence':ti,ab OR 'tobacco use disorder':ti,ab	

Table E-3. PsycInfo Search Strategy (Ebsco syntax and MeSH thesaurus)

Search #	Query	Results
	Limits: 2014-2024, English, Peer-Reviewed	177
S3	S1 AND S2	
S2	XB (cessation or stopping or quitting or ceasing) OR MA ("smoking cessation" OR "tobacco use cessation" OR "smoking reduction")	
S1	XB (nicotine OR tobacco OR cigarette OR e-cigarette OR vap*) OR MA (nicotine OR "cigarette smoking" OR "tobacco use disorder")	

Table E-4. PubMed Search Strategy (MeSH syntax)

Search #	Query	Results
#32	Search: #19 OR #21 OR #23 OR #25 OR #27 OR #29 Filters: English, from 2014/1/1 - 2024/12/12	1,282
#31	Search: #7 OR #9 OR #11 OR #13 OR #15 OR #17 Filters: English, from 2014/1/1 - 2024/12/12	1,017
#30	Search: #7 OR #9 OR #11 OR #13 OR #15 OR #17 OR #19 OR #21 OR #23 OR #25 OR #27 OR #29 Filters: English, from 2014/1/1 - 2024/12/12	0
#29	Search: #5 AND #28 AND (#6 OR #8) Filters: English, from 2014/1/1 - 2024/12/12	56
#28	Search: (quit AND ("not ready" OR prepare OR readiness OR unsure OR unwilling)) OR ambivalent[TIAB] OR contemplative[TIAB] OR "pre-contemplative"[TIAB] Filters: English, from 2014/1/1 - 2024/12/12	3,533
#27	Search: #5 AND #26 Filters: English, from 2014/1/1 - 2024/12/12	24
#26	Search: "non-invasive brain stimulation"[TIAB] OR "noninvasive brain stimulation"[TIAB] OR "transcranial direct current stimulation"[TIAB] OR "transcranial magnetic stimulation"[TIAB] OR "theta burst stimulation"[TIAB] OR rtms[TIAB] OR tms[TIAB] OR tbs[TIAB] Filters: English, from 2014/1/1 - 2024/12/12	26,148
#25	Search: #5 AND #24 Filters: English, from 2014/1/1 - 2024/12/12	160
#24	Search: diet[TIAB] OR exercise[TIAB] OR "physical activity"[TIAB] OR "weight loss"[TIAB] OR "weight management"[TIAB] OR "weight reduction"[TIAB] Filters: English, from 2014/1/1 - 2024/12/12	499,992
#23	Search: #5 AND #22 Filters: English, from 2014/1/1 - 2024/12/12	135
#22	Search: "motivational interview"[TIAB] OR "nrt sampling"[TIAB] OR outreach[TIAB] OR "patient engagement"[TIAB] OR proactive[TIAB] OR "opt-in"[TIAB] OR "opt-out"[TIAB] OR "treatment engagement"[TIAB] Filters: English, from 2014/1/1 - 2024/12/12	42,214
#21	Search: #5 AND (#6 OR #20) Filters: English, from 2014/1/1 - 2024/12/12	834
#20	Search: "electronic cigarette"[TIAB] OR "ecig*"[TIAB] OR "e cig*"[TIAB] OR "electronic nicotine delivery system"[TIAB] OR "electronic nicotine device"[TIAB] OR "hookah pen"[TIAB] OR (vape[TIAB] AND (mod[TIAB] OR tank[TIAB])) OR vaping[TIAB] Filters: English, from 2014/1/1 - 2024/12/12	12,343

Search #	Query	Results
#19	Search: #5 AND #18 Filters: English, from 2014/1/1 - 2024/12/12	388
#18	Search: app[TIAB] OR "app based"[TIAB] OR ai[TIAB] OR "artificial intelligence"[TIAB] OR "cell phone"[TIAB] OR chatbot[TIAB] OR mhealth[TIAB] OR mobile[TIAB] OR smartphone[TIAB] OR sms[TIAB] OR tablet[TIAB] OR text[TIAB] OR "virtual reality"[TIAB] OR wearable[TIAB] OR "web site"[TIAB] OR website[TIAB] Filters: English, from 2014/1/1 - 2024/12/12	472,478
#17	Search: #5 AND #16 Filters: English, from 2014/1/1 - 2024/12/12	53
#16	Search: acupuncture[TIAB] OR "autogenic training"[TIAB] OR biofeedback[TIAB] OR "breathing exercise"[TIAB] OR "exercise therapy"[TIAB] OR "guided imagery"[TIAB] OR hypnosis[TIAB] OR hypnotherapy[TIAB] OR massage[TIAB] OR meditation[TIAB] OR mindfulness[TIAB] OR "progressive relaxation"[TIAB] OR "qi gong"[TIAB] OR qigong[TIAB] OR "tai chi"[TIAB] OR yoga[TIAB] Filters: English, from 2014/1/1 - 2024/12/12	48,618
#15	Search: #5 AND #14 Filters: English, from 2014/1/1 - 2024/12/12	18
#14	Search: "transcultural care"[TIAB] OR (cultur[TIAB] AND (competence[TIAB] OR design[TIAB] OR tailor[TIAB])) Filters: English, from 2014/1/1 - 2024/12/12	40,722
#13	Search: #9 AND #12 Filters: English, from 2014/1/1 - 2024/12/12	67
#12	Search: (alcoholism[TIAB] OR "alcohol abuse"[TIAB] OR "alcohol associated condition"[TIAB] OR "alcohol misuse"[TIAB] OR "alcohol use disorder"[TIAB]) OR ("drug abuse"[TIAB] OR "drug addiction"[TIAB] OR "drug dependence"[TIAB] OR "drug use"[TIAB] OR "substance abuse"[TIAB] OR "substance misuse"[TIAB] OR "substance-related use"[TIAB] OR "substance use"[TIAB]) Filters: English, from 2014/1/1 - 2024/12/12	97,699
#11	Search: #9 AND #10 Filters: English, from 2014/1/1 - 2024/12/12	56
#10	Search: (abstain[TIAB] OR abstinence[TIAB] OR "point prevalence"[TIAB] OR "smoking cessation"[TIAB]) AND (relapse[TIAB] OR recur[TIAB] OR reoccurrence[TIAB] OR "treatment failure"[TIAB:~3]) Filters: English, from 2014/1/1 - 2024/12/12	3,266
#9	Search: #5 AND #8 Filters: English, from 2014/1/1 - 2024/12/12	666
#8	Search: ("behavior change"[TIAB] OR (behavioral[TIAB] AND (intervention[TIAB] OR treatment[TIAB] OR therapy[TIAB]))) OR "behavior modification"[TIAB] OR "cognitive behavioral therapy"[TIAB] OR "community reinforcement approach"[TIAB] OR "contingency management"[TIAB] OR counseling[TIAB] OR counselling[TIAB] OR "financial incentive"[TIAB] OR "motivational enhancement	178,857

Search #	Query	Results
	therapy"[TIAB] OR "motivational interview"[TIAB] OR quitline[TIAB] OR "quit line"[TIAB] OR ((recycle[TIAB] OR repeat[TIAB]) AND (coach[TIAB] OR counsel*[TIAB] OR intervention[TIAB] OR therapy[TIAB] OR treat[TIAB] OR train[TIAB]))) AND ("behavior change"[TIAB] OR (behavioral[TIAB] AND (intervention[TIAB] OR treatment[TIAB] OR therapy [TIAB])) OR "behavior modification"[TIAB] OR "cognitive behavioral therapy"[TIAB] OR "community reinforcement approach"[TIAB] OR "contingency management"[TIAB] OR counseling[TIAB] OR counselling[TIAB] OR "financial incentive"[TIAB] OR "motivational enhancement therapy"[TIAB] OR "motivational interview"[TIAB] OR quitline[TIAB] OR "quit line"[TIAB] OR ((recycle[TIAB] OR repeat[TIAB]) AND (coach[TIAB] OR counsel* [TIAB] OR intervention[TIAB] OR therapy[TIAB] OR treat[TIAB] OR train[TIAB]))) Filters: English, from 2014/1/1 - 2024/12/12	
#7	Search: #5 AND #6 Filters: English, from 2014/1/1 - 2024/12/12	630
#6	Search: amfebutamone[TIAB] OR bupropion[TIAB] OR cytisine[TIAB] OR cytisinicline[TIAB] OR "drug therapy"[TIAB] OR "drug treatment"[TIAB] OR medication[TIAB] OR "monothotherapy nicotine"[TIAB:~3] OR "nicotine gum"[TIAB] OR "nicotine inhaler"[TIAB] OR "nicotine lozenge"[TIAB] OR "nicotine patch"[TIAB] OR "nicotine replacement therapy"[TIAB] OR "nicotine gum"[TIAB] OR "nicotine inhaler"[TIAB] OR "nicotine lozenge"[TIAB] OR "nicotine replacement therapy"[TIAB] OR nrt[TIAB] OR patch[TIAB] OR pharmacotherapy[TIAB] OR varenicline[TIAB] Filters: English, from 2014/1/1 - 2024/12/12	247,848
#5	Search: (#2 OR #3) AND #4 Filters: English, from 2014/1/1 - 2024/12/12	2,330
#4	Search: (tobacco[TIAB] OR smoking[TIAB]) AND (abstain[TIAB] OR abstinence[TIAB] OR cessation[TIAB] OR "cut down"[TIAB] OR limit[TIAB] OR quit[TIAB] OR reduc*[TIAB] OR stop[TIAB]) Filters: English, from 2014/1/1 - 2024/12/12 (("tobacco"[Title/Abstract] OR "smoking"[Title/Abstract]) AND ("abstain"[Title/Abstract] OR "abstinence"[Title/Abstract] OR "cessation"[Title/Abstract] OR "cut down"[Title/Abstract] OR "limit"[Title/Abstract] OR "quit"[Title/Abstract] OR "reduc*" [Title/Abstract] OR "stop"[Title/Abstract])) AND ((2014/1/1:2024/12/12[pdat]) AND (english[Filter]))	54,409
#3	Search: #1 AND ("randomized controlled trial"[TIAB] OR randomization[TIAB] OR "double blind procedure"[TIAB] OR "single blind procedure"[TIAB] OR placebo[TIAB] OR "crossover procedure"[TIAB]) Filters: English, from 2014/1/1 - 2024/12/12	1,552

Search #	Query	Results
#2	Search: #1 AND ("research synthesis"[TIAB] OR "systematic review"[TIAB] OR cochrane[TIAB] OR metaanaly*[TIAB] OR "meta analy*"[TIAB]) Filters: English, from 2014/1/1 - 2024/12/12	2,480
#1	Search: "nicotine gel"[TIAB] OR "nicotine pouch"[TIAB] OR "heat not burn"[TIAB] OR "heated tobacco product"[TIAB] OR "non-combustable"[TIAB] OR (tobacco[TIAB] AND (chew[TIAB] OR dip [TIAB] OR dissolve[TIAB] OR gutkha[TIAB] OR oral[TIAB] OR smokeless[TIAB] OR snuff[TIAB] OR snus[TIAB] OR spit[TIAB] OR suck[TIAB])) OR (tobacco[TIAB]AND (hooka[TIAB]OR hookah[TIAB] OR narghile[TIAB]OR shisha[TIAB]OR sheesha[TIAB]OR waterpipe[TIAB])) OR (nicotine[TIAB]) AND ("e cig*"[TIAB]OR "ecig*"[TIAB] OR "electronic nicotine delivery system"[TIAB] OR "electronic nicotine device"[TIAB] OR "hookah pen"[TIAB]OR (vape[TIAB] AND (mod[TIAB] OR tank:ti,ab)) OR vaping[TIAB]) OR (tobacco[TIAB] AND (bidi[TIAB]OR cigar*[TIAB]OR cheroot[TIAB]OR consum* OR kretek[TIAB] OR pipe[TIAB] OR product[TIAB]OR "roll your own"[TIAB] OR smok*[TIAB]OR use[TIAB]OR smoking:ti,ab)) OR "nicotine addiction"[TIAB] OR "nicotine dependence"[TIAB] OR "tobacco dependence"[TIAB] OR "tobacco use disorder"[TIAB] Filters: English, from 2014/1/1 - 2024/12/12	4,651

Table E-5. AHRQ Evidence-based Practice Center Reports Search Strategy

Search #	Query
#1	tobacco nicotine smoking AND cessation stop quit cease

Table E-6. Cochrane Database of Systematic Reviews

Search #	Query
#1	tobacco or nicotine or smoking in Title Abstract Keyword AND cessation OR stop* OR quit* OR stop* in Title Abstract Keyword - with Cochrane Library publication date Between Jan 2014 and Dec 2024 (Word variations have been searched)

Table E-7. Cochrane Database of Systematic Reviews

Search #	Query
#1	tobacco
#2	smoking

Appendix F. Alt Text Descriptions of Algorithms

The following outlines narratively describe Module A and Module B, an explanation of the purpose of the algorithms and description of the various shapes used within the algorithms can be found in the Algorithm section. The sidebars referenced within these outlines can also be found in the Algorithm section.

A. Module A: Initial Treatment

1. Module A begins with Box 1 in the shape of a rounded rectangle: “Currently using tobacco”
2. Box 1 connects to Box 2 in the shape of a rectangle: “Encourage cessation & Offer varenicline or combination NRT for quitting or making changes (see Sidebar A)”
3. Box 2 connects to Box 3 in the shape of a hexagon: “Accepts Treatment for Quitting or Making Changes?”
 - a. If the answer is “Yes” to Box 3, then Box 7 In the shape of a rectangle: “Prescribe medication (see Sidebar C) and refer to behavioral counseling (see Sidebar D)”
 - b. If the answer is “No” to Box 3, then Box 4 in the shape of a rectangle: “Use Motivational Interviewing to facilitate change (see Sidebar B)”
 - i. Box 4 connects to Box 5 in the shape of a hexagon: “Accepts Treatment for Quitting or Making Changes?”
 1. If the answer is “No” to Box 5, then Box 6 in the shape of a rectangle: “Readdress treatment at next visit”.
 - a. Box 6 loops back to Box 2 in the shape of a rectangle: “Encourage cessation & Offer varenicline or combination NRT for quitting or making changes (see Sidebar A)”
 2. If the answer is “Yes” to Box 5, then Box 7 in the shape of a rectangle: “Prescribe medication (see Sidebar C) and refer to behavioral counseling (see Sidebar D)”

B. Module B: Follow-up Treatment and Ongoing Care

4. Module B begins with Box 8 in the shape of a rectangle: “Develop individual treatment plan/goals using MI strategies as appropriate”
5. Box 8 connects to Box 9 in the shape of a rectangle: “Follow-up at 2-4 weeks to assess progress towards goals and adjust treatment as needed (see Sidebar E)”
6. Box 9 connects to Box 10 in the shape of a hexagon: “Abstinent?”
 - a. If the answer is “Yes” to Box 10, then Box 12 in the shape of a rectangle: “Maintain abstinence (see Sidebar F)”
 - b. If the answer is “No” to Box 10, then Box 11 in the shape of an oval: “Reassess goals and adjust treatment”
 - i. Box 11 loops back to Box 9 in the shape of a rectangle: “Follow-up at 2-4 weeks to assess progress towards goals and adjust treatment as needed (see Sidebar E)”
 - c. Box 12 connects to Box 13 in the shape of a hexagon: “Relapse?”

- i. If the answer is “Yes” to Box 13, then Box 14 in the shape of a rectangle: “Resume treatment immediately”
 - ii. If the answer is “No” to Box 13, then Box 12 in the shape of a rectangle: “Maintain abstinence (see Sidebar F)”
7. Box 14 loops back to Box 9 in the shape of a rectangle: “Follow-up at 2-4 weeks to assess progress towards goals and adjust treatment as needed (see Sidebar E)”

Appendix G. Additional Information on Tobacco Use Treatment and Screening

A. Assessment of Current Tobacco Use

It is essential that providers and healthcare delivery systems consistently identify and document tobacco use status and treat every patient seen in a healthcare setting who uses tobacco. All patients should be asked about their tobacco use at every clinical encounter. This should include assessing both the types of tobacco used (e.g., cigarettes, ENDS, pipe, cigarillos) as well as the frequency of use. All patients should be informed that quitting tobacco is the best thing they can do for their health, and all patients should be provided with evidence-based treatment for their tobacco use regardless of their readiness to make a quit attempt.

A.1. Tobacco Treatment Models. Two different tobacco use assessment models guide current routine care: the 5A's of Treatment Tobacco and Ask, Advise, Act.

5A's of Treating Tobacco
Ask about tobacco use
<i>Do you use any nicotine or tobacco products such as cigarettes or ENDS? What type do you use? How frequently do you use it each day or week (if not daily)?</i>
Advise the patient to quit using the nicotine or tobacco product using a clear, personalized message
<i>Stopping your use of cigarettes (or other nicotine or tobacco products) is the most important thing you can do for your health (personalize to the patient's specific health conditions).</i>
Assess readiness to quit
<i>I can help connect you with treatment that can help you quit. Are you interested in making a quit attempt?</i>
Assist with treatment for patients who are ready to quit and not ready to quit
<i>If ready to try quitting, provide cessation treatment (section B). If not ready to quit in the near future, provide treatment for those not ready to quit (section C).</i>
Arrange follow-up and support
<i>All patients who initiate tobacco treatment should receive follow-up and be referred for additional support (see referral sources in section E).</i>

Ask, Advise, Act
Ask about tobacco use
<i>Do you use any nicotine or tobacco products such as cigarettes or ENDS? What type do you use? How frequently do you use it each day or week (if not daily)?</i>

Advise patient to quit using the nicotine or tobacco product using a clear, personalized message

Stopping your use of cigarettes (or other nicotine or tobacco products) is the most important thing you can do for your health (personalize to the patient's specific health conditions).

Act

Provide medication and counseling support. Refer and connect with additional support (section E). Check on progress and adjust support.

B. Interventions For Adults Ready to Set a Quit Date in the Next 30 Days

Treatment Overview

Tobacco dependence treatments are effective across a broad range of populations. Both behavioral interventions and pharmacotherapy alone can increase the likelihood of achieving abstinence, but the combination of counseling with medication is most effective relative to either alone for smoking cessation.⁽⁹⁵⁾ Providers should encourage every patient willing to make a quit attempt to use a combination of recommended pharmacotherapy and behavioral support.

Pharmacotherapy

There are effective medications for treating smoking. Providers should encourage the use of medication by all patients who use tobacco except when medically contraindicated. There are seven FDA-approved medications that have been shown to increase long-term smoking abstinence (varenicline, bupropion sustained release, nicotine patch, nicotine gum, nicotine lozenge, nicotine nasal spray; see Pharmacotherapy [Appendix H](#) for use instructions). Medications can be combined to increase their effectiveness, especially long-acting NRT (patch) with a short-acting formulation (nicotine gum or lozenge).^(95,270) Follow-up is recommended within about 2-4 weeks of starting medication to assess for side effects, provide support, and encourage medication adherence. If the patient relapses, pharmacotherapy should be continued to help reinstate abstinence.⁽⁹⁵⁾

Behavioral Treatment

It is recommended that patients making a quit attempt should receive behavioral treatment in addition to medication. Evidence suggests that there is a dose dependent relationship between the intensity of counseling and treatment success.⁽⁹⁵⁾ Effective behavioral treatment can be provided in person (individually or group) or over the phone.⁽²⁷¹⁾ Therefore, it is important to connect patients with additional sources of behavioral support to increase their likelihood of success (see referral resources in [Section E](#)). A variety of behavioral approaches have been found to be effective for smoking cessation (see Psychotherapy [Appendix I](#)). Several counseling elements have been identified as effective components of behavioral support. Behavioral treatments should enhance motivation, help develop a quit plan, review and learn from past quit attempts, discuss strategies for coping with craving and environmental triggers (e.g., alcohol, living with people who smoke, social situations), and encourage the use of additional sources of

social support.(95) Counseling should also address misconceptions of medication (e.g., NRT is addictive) to increase medication adherence.(95)

C. Interventions For Adults Who are Not Ready to Quit

All adults who use tobacco should be provided with tobacco treatment regardless of their readiness to quit. Evidence supports the effectiveness of NRT and varenicline to support intermediate goals such as smoking reduction to encourage quit attempts and promote abstinence.(197,199) Adults not ready to quit should be offered NRT (nicotine patch, gum, mini-lozenge) or varenicline to help them make changes to their smoking. Providers should help patients identify a smoking change goal that feels right for them (e.g., reducing smoking heaviness, increasing time between cigarettes, delaying smoking, or eliminating smoking in specific situations). Counseling support, if provided, should emphasize feelings of competence and self-efficacy resulting from the practice of smoking reduction or pattern changing skills. Patients who become ready to make a quit attempt should be provided with cessation focused counseling and pharmacotherapy (i.e., if already using nicotine-mini lozenge, include nicotine patch to support quitting).(272)

D. Interventions For Pregnant Adults

It is recommended that pregnant adults receive behavioral counseling. Message tailoring for pregnant adults and increased counseling intensity has been shown to increase the overall effectiveness of counseling.(270)

E. Referral Resources

Evidence supports the effectiveness of telephone quit lines.(273,274) Providers should refer patients to quit lines (1-800-QUITNOW; 1-855-QUIT-VET) for additional counseling and support. Digital smoking treatment Interventions (e.g., Smokefree.gov, Veterans.Smokefree.gov) can also recommended to patients as a strategy for increasing support.(275)

Appendix H. Pharmacotherapy

Patients should be offered and provided pharmacotherapy to assist with stopping nicotine dependence.

Medications for nicotine dependence have different mechanisms. However, all target the reduction of physiological withdrawals of nicotine either by working on nicotinic receptors to reduce withdrawal symptoms, or providing patients with lower levels, slower absorptions, and safer levels of nicotine without toxins. Nicotine withdrawal symptoms may last just a few weeks.[\(276,277\)](#) However, nicotine dependence is a chronic, relapsing condition, where learned behaviors become difficult to rid. Hence, pharmacotherapy targets nicotine withdrawal symptoms and allows time for patients to focus on behavioral change. This is also a reason why pharmacotherapy is used for longer than a few weeks, with an average recommended use of 12 weeks or longer, when needed. In addition, the chronic, relapsing nature of nicotine dependence, medications can be reutilized if needed.

True medication failures are rare, as failures are usually associated with improper use of medications and lack of adherence to/understanding of medications.[\(278\)](#) Compliance with pharmacotherapy is very important, yet not focused enough on treatment. NRT delivers nicotine slower and at lower levels of nicotine than combustible nicotine products. The onset is also much slower. As a quick example, nicotine patch may take a few hours for onset and several hours to get to a consistent level of nicotine.[\(279\)](#) If NRTs are not used consistently, the efficacy will be reduced, with the patient experiencing more nicotine withdrawal symptoms. Pharmacotherapy like varenicline or bupropion also takes 5-7 days to get to steady state, hence any interruptions can also reduce its effect. These are some outcomes of effectiveness that can be considered when evaluating the efficacy of medications:

- Reducing nicotine withdrawal
- Reduce tobacco use
- Making a quit attempt
- Sustained abstinence
- Abstinence and pharmacotherapy free

Assess Your Patient’s Level of Nicotine Dependence (*Note can be adapted for other tobacco products as well)

Table H-1. Heaviness of Smoking Index- Cigarette Smokers

Question	Response	Points
<ul style="list-style-type: none"> ▪ 1. How soon after waking do you smoke your first cigarette? 	<ul style="list-style-type: none"> ▪ Within 5 mins ▪ 6-30 mins ▪ 31-60 mins ▪ >60 mins 	<ul style="list-style-type: none"> ▪ 3 ▪ 2 ▪ 1 ▪ 0
<ul style="list-style-type: none"> ▪ 2. How many cigarettes do you smoke each day? 	<ul style="list-style-type: none"> ▪ >30 cigarettes ▪ 21-30 cigarettes ▪ 11-20 cigarettes ▪ 10 cigarettes or less 	<ul style="list-style-type: none"> ▪ 3 ▪ 2 ▪ 1 ▪ 0
<ul style="list-style-type: none"> ▪ (5-6 pts.): High dependence ▪ (3-4 pts.): Moderate dependence ▪ (1-2 pts.): Low dependence ▪ (0 pts.): No dependence 	<ul style="list-style-type: none"> ▪ NICOTINE DEPENDENCE SCORE (Points): 	

Table H-2. Smokeless Tobacco Use- Nicotine Dependence Assessment

Question	Response	Points
<ul style="list-style-type: none"> ▪ 1. How soon after waking do you use tobacco? 	<ul style="list-style-type: none"> ▪ Within 5 mins ▪ 6-30 mins ▪ 31-60 mins ▪ >60 mins 	<ul style="list-style-type: none"> ▪ 3 ▪ 2 ▪ 1 ▪ 0
<ul style="list-style-type: none"> ▪ 2. How many cans/pouches do you use per week? 	<ul style="list-style-type: none"> ▪ More than 3 ▪ 2-3 ▪ 1 	<ul style="list-style-type: none"> ▪ 2 ▪ 1 ▪ 0
<ul style="list-style-type: none"> ▪ (5 pts.): High dependence ▪ (3-4 pts.): Moderate dependence ▪ (1-2 pts.): Low dependence ▪ (0 pts.): No dependence 	<ul style="list-style-type: none"> ▪ NICOTINE DEPENDENCE SCORE (Points): 	

Table H-3. Pharmacotherapy

Topic Area	Nicotine Patches	Nicotine Lozenges	Nicotine Gum
Description and Example	<ul style="list-style-type: none"> ■ 21mg, 14mg, 7mg ■ Delivers nicotine directly through the skin 	<ul style="list-style-type: none"> ■ 2mg, 4mg ■ Delivers nicotine through the lining of the mouth while the lozenge dissolves 	<ul style="list-style-type: none"> ■ 2mg, 4mg ■ Delivers nicotine through the lining of the mouth while gum is parked between the cheek and gum
Clinical Considerations	<p>Pros</p> <ul style="list-style-type: none"> ■ Provides constant levels of nicotine replacement ■ Easy to use ■ Only needs to be applied once a day ■ Best when used with a short-acting nicotine product (gum or lozenge) or bupropion <p>Cons</p> <ul style="list-style-type: none"> ■ Less-flexible dosing — cannot titrate dose to acutely manage withdrawal symptoms ■ Slower onset of delivery ■ Mild skin rashes and irritation 	<p>Pros</p> <ul style="list-style-type: none"> ■ Easy to use ■ Convenient/flexible dosing that allows for titration and tapering to manage withdrawal symptoms ■ May satisfy oral cravings ■ Best when used with nicotine patch for breakthrough cravings ■ Delivers doses of nicotine 25% higher than nicotine gum <p>Cons</p> <ul style="list-style-type: none"> ■ Requires proper technique. Improper use can lead to increased risk of side effects. Most common side effect is nausea (12-15%) or stomach upset ■ Frequent use during the day required to maintain adequate nicotine levels (may compromise compliance especially if using monotherapy) 	<p>Pros</p> <ul style="list-style-type: none"> ■ Convenient/flexible dosing that allows for titration and tapering to manage withdrawal symptoms ■ Faster delivery of nicotine than patch ■ May satisfy oral cravings ■ Best when used in combination with nicotine patch for breakthrough cravings <p>Cons</p> <ul style="list-style-type: none"> ■ Requires proper chewing technique for maximum benefit and to minimize adverse effects (patient should be advised to 'bite down and not chew') ■ Most common side effect is nausea (12-15%) or stomach upset ■ Avoid in patients with dental problems, dentures, or temporomandibular jaw disorder (TMJ) ■ Frequent use during the day required to maintain adequate

Topic Area	Nicotine Patches	Nicotine Lozenges	Nicotine Gum
<p>Dosage and Administration</p>	<ul style="list-style-type: none"> ■ Moderate to high nicotine dependence OR >10 cigarettes/day = 21 mg/day for 1-2 months, then 14mg/day for 1-2 months, then 7mg/day for 1-2 months ■ Low nicotine dependence OR ≤10 cigarettes = 14 mg/day for 1-2 months, then 7mg/day for 1-2 months ■ Adjust tapering based on withdrawal symptoms, urges, and patient comfort level ■ Duration: 3-6 months (varies depending on patient response) ■ Highly recommend using in combination with a short-acting nicotine replacement therapy (NRT) such as nicotine gum or nicotine lozenge or bupropion 	<ul style="list-style-type: none"> ■ Dosage is based on nicotine dependence or time to first tobacco use of the day (TTFU) ■ Highly recommend using in combination with nicotine patch or bupropion. ■ If using in combination with patch or bupropion: may use 2mg for most patients and 4mg in more dependent patients: <ul style="list-style-type: none"> ● Use as needed up to 10-12 lozenges per day and reduce each week ● If using with nicotine patch, may increase when stepping down to a lower dose patch (See combination dosing strategy section) ■ If using as monotherapy: <ul style="list-style-type: none"> ● If moderate to high nicotine dependence or TTFU is ≤ 30 minutes, start with 4mg lozenges 	<p>nicotine levels (may compromise compliance especially if using as monotherapy)</p> <ul style="list-style-type: none"> ■ Dosage is based on nicotine dependence or time to first tobacco use of the day (TTFU) ■ Highly recommend using in combination with nicotine patch or bupropion ■ If using in combination with patch or bupropion, may use 2mg for most patients and 4mg in more dependent patients. <ul style="list-style-type: none"> ● Use as needed up to 10-12 pieces per day and reduce each week ● If using with nicotine patch, may increase when stepping down to a lower dose patch ■ If using as monotherapy: <ul style="list-style-type: none"> ● If moderate to high nicotine dependence or TTFU is ≤ 30 minutes, start with 4mg gum ● If low nicotine dependence or TTFU is > 30 minutes, start with 2mg gum <ul style="list-style-type: none"> ● Use at least 9 gum per day ● Maximum 24 gum per day

Topic Area	Nicotine Patches	Nicotine Lozenges	Nicotine Gum
		<ul style="list-style-type: none"> • If low nicotine dependence or TTFU is > 30 minutes, start with 2mg lozenges • Use at least 8 lozenges per day • Maximum 20 lozenges per day <ul style="list-style-type: none"> ▪ Duration: Taper as tolerated each week. Average tapering is 3-6 months but may be longer if needed 	<ul style="list-style-type: none"> ▪ Duration: Taper as tolerated each week. Average tapering is 3-6 months but may be longer if needed
Adverse Effects	<ul style="list-style-type: none"> ▪ May cause minor burning, itching or redness of skin ▪ Hives may mean more significant allergic reaction to the adhesive. Can consider brand switching ▪ Vivid dreams 	<ul style="list-style-type: none"> ▪ May cause indigestion, upset stomach, nausea, hiccups, headache, mouth irritation and difficulty sleeping ▪ (Correct use can avoid some GI side effects) 	<ul style="list-style-type: none"> ▪ May cause mouth soreness, oral irritation, hiccups, jaw aches, nausea and vomiting ▪ (Correct use can avoid some GI side effects)
Patient Education	<ul style="list-style-type: none"> ▪ Patches may be placed anywhere on the upper body, including arms, chest and back. Avoid hairy areas ▪ Use for 24 hours. If vivid dreams, remove patch before bedtime ▪ Rotate sites to avoid minor skin irritation (avoid an area for a week if possible) ▪ Avoid smoking while on the patch but if have slips, don't remove patch to use tobacco, continue using the patch as prescribed (stop only if still smoking a consistent amount) 	<ul style="list-style-type: none"> ▪ Advise patients to allow lozenges to dissolve slowly over 20-30 minutes (faster if mini lozenges). Do not chew or swallow ▪ Rotate to different sites of the mouth ▪ Avoid eating or drinking anything acidic 15 minutes before or during use (reduces nicotine absorption). ▪ Review package directions carefully to maximize benefit of product 	<ul style="list-style-type: none"> ▪ Advise the patient not to 'chew' like regular gum ▪ Instruct the patient to slowly bite down on the gum until they sense a peppery flavor or slight tingling in their mouth and then 'park' the gum between their cheek and gum ▪ Patient should park the gum between their cheek and gum for about one (1) minute to absorb until taste or tingle is gone. Repeat step of 'bite down and park' until taste or

Topic Area	Nicotine Patches	Nicotine Lozenges	Nicotine Gum
			<p>tingle does not return (about 30 minutes)</p> <ul style="list-style-type: none"> ■ Each piece should last about 20-30 minutes ■ Avoid eating or drinking anything acidic 15 minutes before or during use (reduces nicotine absorption) ■ Review package directions carefully to maximize benefit of product

Topic Area	Nicotine Nasal Spray	Bupropion	Varenicline
Description and Example	<ul style="list-style-type: none"> ■ Delivers nicotine through the nasal passages 	<ul style="list-style-type: none"> ■ Sustained Release 150mg ■ Other Formulations such as Immediate Release and Extended Release can be considered 	<ul style="list-style-type: none"> ■ 1.0mg, 0.5 mg
Clinical Considerations	<p>Pros</p> <ul style="list-style-type: none"> ■ Can titrate and taper to manage withdrawal symptoms ■ May be better for highly dependent patients <p>Cons</p> <ul style="list-style-type: none"> ■ The quickest onset and peak for nicotine absorption out of all the NRTs thus also has highest dependence potential ■ Frequent use during the day required to obtain adequate nicotine levels (may compromise compliance especially if using as monotherapy) 	<p>Pros</p> <ul style="list-style-type: none"> ■ Easy to use ■ Pill form and may be associated with better compliance ■ Can be combined with NRT ■ May be beneficial in patients with depression <p>Cons</p> <ul style="list-style-type: none"> ■ Contraindicated in patients with seizures (seizure risk 1/1000). ■ Assess seizure risk in patients with active SUD (e.g., alcohol), anorexia, bulimia, head trauma, and brain injury 	<p>Pros</p> <ul style="list-style-type: none"> ■ Easy to use ■ In pill form and may be associated with better compliance ■ Only medication that blocks nicotinic receptors and also stimulates the receptors to reduce cravings ■ No known drug interactions <p>Cons</p> <ul style="list-style-type: none"> ■ Nausea common in up to one-third of patients ■ Vivid dreams also noted as a common side effect ■ May increase risk of seizures ■ May reduce alcohol tolerance

Topic Area	Nicotine Nasal Spray	Bupropion	Varenicline
Clinical Considerations	<ul style="list-style-type: none"> ■ May increase symptoms in patients with allergies or uncontrolled reactive airway disease (avoid in patients with chronic nasal conditions) ■ Can irritate nasal cavity so most common side effects are hot, peppery feeling in back of throat or nose, sneezing, coughing, watery eyes, or runny nose 		

Topic Area	Nicotine Nasal Spray	Bupropion	Varenicline
Dosage and Administration	<ul style="list-style-type: none"> ■ A dose is equal to 1 spray in each nostril (2 total sprays) <p><i>If using in combination with patch or bupropion:</i></p> <ul style="list-style-type: none"> ■ Use up to 10-12 doses per day and reduce each week ■ Max dosing is 5 doses per hour ■ If using with nicotine patch, may increase when stepping down to a lower dose patch (See combination dosing strategy section) <p><i>If using as monotherapy:</i></p> <ul style="list-style-type: none"> ■ Start with 8 doses per day ■ Increase up to 40 doses (usual max dose) per day ■ Slowly decrease each week as directed ■ Max dosing is 5 doses per hour and 40 doses per day ■ Taper as tolerated each week. Average tapering is 3-6 months but can be longer if needed 	<ul style="list-style-type: none"> ■ Takes 1 week to get to effective dose: <ul style="list-style-type: none"> ● 150 mg daily for 3 days then 150mg twice a day (8 hrs apart) for 4 days ● Then on target quit date, STOP SMOKING ● Continue at 150 mg twice a day for 8 to 12 weeks ● May stop abruptly ● No need to taper ■ Can be used in combination with NRT 	<ul style="list-style-type: none"> ■ Takes 1 week to get to effective dose: <ul style="list-style-type: none"> ● 0.5 mg once a day for 3 days ● then 0.5 mg twice a day for 4 days ● then 1.0 mg twice a day for 11 weeks ■ Typical treatment duration is 3-6 months ■ May stop abruptly ■ No need to taper ■ Dose must be adjusted if kidney function is impaired ■ (Creatine clearance less than 30 mL/min): Max titration is to 0.5mg twice daily ■ Dialysis: max per day of 0.5mg/day
Dosage and Administration		<ul style="list-style-type: none"> ■ Consider reducing dose and/or frequency in renal and hepatic impairment 	

Topic Area	Nicotine Nasal Spray	Bupropion	Varenicline
Adverse Effects	<ul style="list-style-type: none"> ■ May cause irritation in the nose and throat leading to sneezing, coughing, runny nose, or watery eyes ■ Shortness of breath is rare, usually related to incorrect usage 	<ul style="list-style-type: none"> ■ Nausea ■ Insomnia, vivid dreams ■ Rare, but mood changes and increased anxiety can occur 	<ul style="list-style-type: none"> ■ GI: nausea/vomiting are most common side effects ■ Insomnia, vivid dreams ■ Rare but mood changes can occur
Patient Education	<ul style="list-style-type: none"> ■ Instruct the patient to ‘prime’ the nasal spray before use until a fine spray (likely 6-8 times of pressing the spray) ■ Instruct the patient to blow nose if it is not clear before use ■ Insert the nasal spray as far back as comfortable and consider spraying away from the septum to avoid irritation ■ Use 1 spray in each nostril (1 dose) ■ Due to irritability and potential for tearing, do not operate heavy machinery for 10 minutes after use ■ Review package directions carefully to maximize benefit of product and complete direction of use 	<ul style="list-style-type: none"> ■ Medication should be initiated at least 1 week prior to quit date and titrated ■ Avoid bedtime dose to minimize insomnia but allow 8 hours between doses ■ If patients experience any suicidal ideation/mood changes (rare adverse event), advise them to stop medication and contact their provider 	<ul style="list-style-type: none"> ■ Treatment should be initiated at least 1 week prior to quit date and titrated ■ Taking the medication with food and titrating the dose as directed may help with nausea ■ Take with a full glass of water ■ Allow up to 12 weeks to become tobacco free and a maximum of 6 months of treatment ■ If patients experience any suicidal ideation/mood changes (rare adverse event), advise them to stop medication and contact their provider

Abbreviations: GI: gastrointestinal; mg: milligrams; mL: milliliters; NRT: nicotine replacement therapy; TTFU: time to first use

Appendix I. Psychosocial Interventions

CBT utilizes various therapeutic techniques to help individuals identify and change maladaptive thought patterns and behaviors. Cognitive restructuring is one of the key techniques used in CBT, whereby individuals learn to challenge and modify their maladaptive thoughts and beliefs. Additionally, CBT may involve skills training, such as learning coping skills and strategies to effect positive behavior and mood changes. Behavioral activation is another CBT technique that involves identifying and scheduling pleasurable and mastery activities, breaking down large tasks into smaller ones, and increasing social engagement. CBT for smoking cessation utilizes the above techniques to address the underlying psychological factors that contribute to smoking, such as stress, anxiety, and cravings. CBT for smoking cessation incorporates cognitive restructuring around thoughts and beliefs that lead to smoking. In addition, this approach teaches coping skills and strategies to manage cravings and avoid return to use, and engagement in healthier alternative behaviors. ([280,281](#))

ACT is an evidence-based psychological intervention that teaches strategies to patients to develop psychological flexibility and acceptance of thoughts, feelings, and bodily sensations, as opposed to suppression or avoidance. Some of the key skills taught in ACT include mindfulness, cognitive diffusion, values-based action, and acceptance. Mindfulness involves increasing awareness and acceptance of the present moment, while cognitive diffusion aims to reduce the literal meaning and impact of maladaptive thoughts. Values-based action encourages individuals to take action towards their core values, even in the presence of challenging thoughts or emotions. In the context of smoking cessation, ACT aims to increase motivation and commitment to cessation by promoting values-based action and reducing the functional importance of smoking. This approach has been shown to be effective in promoting smoking cessation and reducing nicotine withdrawal symptoms. ([282](#))

MI is a goal-oriented, person-centered counseling style that aims to facilitate behavior change by helping individuals resolve ambivalence and mobilize their intrinsic motivation to change. MI is a non-confrontational and non-judgmental approach and is designed to support individuals in making their own decisions about behavioral change. This approach focuses on exploring and resolving an individual's ambivalence regarding change, rather than providing instruction or guidance. MI for smoking cessation employs techniques such as open-ended questions, reflective listening, and affirmations to help individuals enhance motivation to engage in smoking cessation and build confidence in their ability to do so. ([280,281](#)). Evidence for MI as a brief stand-alone treatment for smoking cessation has been equivocal. ([97,98](#)) However, given its focus on enhancing motivation and commitment, MI may hold promise when directed toward treatment engagement.

Appendix J. Abbreviation List

Abbreviation	Definition
AC	Active Component
ACT	acceptance and commitment therapy
AI/AN	American Indian/Alaska Native
AUD	Alcohol Use Disorder
BASC	behavioral activation for smoking cessation
CBT	cognitive behavioral therapy
CI	confidence interval
CIH	complementary integrative health
CM	contingency management
COI	conflicts of interest
COPD	Chronic Obstructive Pulmonary Disease
CPG	Clinical Practice Guidelines
CPTS	cognitive processing therapy for smoking
DBS	deep brain stimulation
DOD	Department of Defense
EBPWG	Evidence-Based Practice Work Group
ENDS	electronic nicotine delivery systems
EU	European Union
FDA	Food and Drug Administration
GI	gastrointestinal
GRADE	Grading of Recommendations Assessment, Development, and Evaluation
HDI	Human Development Index
HRBS	Health Related Behaviors Survey
ITCI	intensive tobacco cessation interventions
iTBS	Intermittent Theta Burst Stimulation
KQ	key question
MA	meta-analysis
MDD	Major Depressive Disorder
mg	milligram
mHealth	mobile health
MHS	Military Health System
MI	motivational interviewing
NAM	National Academy of Science
NICE	National Institute for Health and Care Excellence
NRT	nicotine replacement therapy
NSDUH	National Survey on Drug Use and Health
OR	odds ratio
PE	prolonged exposure
PHA	Periodic Health Assessment
PTSD	Post Traumatic Stress Disorder
RCT	randomized control trial
RD	risk difference
RR	risk ratio
rTMS	repetitive transcranial magnetic stimulation
SAE	Serious adverse events
SDM	shared decision making

Abbreviation	Definition
SI	Shorter interventions
SMI	serious mental illness
SMS	short message service
SR	systematic review
SR	sustained release
SRNT	The Society of Research on Nicotine and Tobacco
SUD	Substance Use Disorder
tDCS	transcranial direct current stimulation
TTFU	time to first use
UK	United Kingdom
U.S.	United States
USPSTF	U.S. Preventative Services Task Force
VA	Veterans Affairs
VHA	Veterans Health Administration

References

1. Evidence Based Practice Work Group Charter (2017).
2. Kaye JT, Kirsch JA, Bolt DM, et al. Tobacco Quitline Retreatment Interventions Among Adults With Socioeconomic Disadvantage: A Factorial Randomized Clinical Trial. *JAMA Netw Open*. Nov 4 2024;7(11):e2443044. doi:10.1001/jamanetworkopen.2024.43044
3. Thomsen T, Villebro N, Møller AM. Interventions for preoperative smoking cessation. *Cochrane Database Syst Rev*. Mar 27 2014;2014(3):Cd002294. doi:10.1002/14651858.CD002294.pub4
4. Shrestha SS, Ghimire R, Wang X, Trivers KF, Homa DM, Armour BS. Cost of Cigarette Smoking—Attributable Productivity Losses, U.S., 2018. *Am J Prev Med*. Oct 2022;63(4):478-485. doi:10.1016/j.amepre.2022.04.032
5. Xu X, Shrestha SS, Trivers KF, Neff L, Armour BS, King BA. U.S. healthcare spending attributable to cigarette smoking in 2014. *Prev Med*. Sep 2021;150:106529. doi:10.1016/j.ypmed.2021.106529
6. Harrogate S, Barnes J, Thomas K, et al. Peri-operative tobacco cessation interventions: a systematic review and meta-analysis. *Anaesthesia*. Nov 2023;78(11):1393-1408. doi:10.1111/anae.16120
7. Gonzales D, Hajek P, Pliamm L, et al. Retreatment with varenicline for smoking cessation in smokers who have previously taken varenicline: a randomized, placebo-controlled trial. *Clin Pharmacol Ther*. Sep 2014;96(3):390-6. doi:10.1038/clpt.2014.124
8. Inoue-Choi M, Liao LM, Reyes-Guzman C, Hartge P, Caporaso N, Freedman ND. Association of Long-term, Low-Intensity Smoking With All-Cause and Cause-Specific Mortality in the National Institutes of Health-AARP Diet and Health Study. *JAMA Intern Med*. Jan 1 2017;177(1):87-95. doi:10.1001/jamainternmed.2016.7511
9. Centers for Disease Control and Prevention. *TOBACCO PRODUCT USE AMONG ADULTS—United States, 2022*. 2022. <https://www.cdc.gov/tobacco/media/pdfs/2024/09/cdc-osh-ncis-data-report-508.pdf>
10. Arrazola RA, Husten CG, Cornelius ME, Armour BS. Notes from the Field: Tobacco Product Use Among Adults - United States, 2017-2023. *MMWR Morb Mortal Wkly Rep*. Mar 6 2025;74(7):118-121. doi:10.15585/mmwr.mm7407a3
11. Lang AE, Melzer AC, Good CB, Upson DJ. Recommendations for Addressing the Tobacco and Nicotine Use Epidemic in U.S. Military Service Members and Veterans. *Ann Am Thorac Soc*. Sep 2023;20(9):1229-1232. doi:10.1513/AnnalsATS.202302-177VP
12. Lang AE, Yakhkind A, Prom-Wormley E. Tobacco and Nicotine Use in the United States Army Trainee Soldier's Environment. *Lung*. Jun 2022;200(3):419-421. doi:10.1007/s00408-022-00544-z
13. Little MA, Bursac Z, Derefinko KJ, et al. Types of Dual and Poly-Tobacco Users in the US Military. *American Journal of Epidemiology*. 2016;184(3):211-218. doi:10.1093/aje/kwv321
14. Services USDoHaH. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. https://www.ncbi.nlm.nih.gov/books/NBK179276/pdf/Bookshelf_NBK179276.pdf
15. Masso-Silva JA, Byun MK, Alexander LEC. Acute and chronic effects of vaping electronic devices on lung physiology and inflammation. *Curr Opin Physiol*. Aug 2021;22doi:10.1016/j.cophys.2021.06.001
16. Kundu A, Feore A, Sanchez S, et al. Cardiovascular health effects of vaping e-cigarettes: a systematic review and meta-analysis. *Heart*. Jun 13 2025;111(13):599-608. doi:10.1136/heartjnl-2024-325030
17. Kundu A, Sachdeva K, Feore A, et al. Evidence update on the cancer risk of vaping e-cigarettes: A systematic review. *Tob Induc Dis*. 2025;23doi:10.18332/tid/192934

18. Petrella F, Faverio P, Cara A, et al. Clinical Impact of Vaping. *Toxics*. Jun 1 2025;13(6)doi:10.3390/toxics13060470
19. Salazar MR, Saini L, Nguyen TB, et al. Elevated Toxic Element Emissions from Popular Disposable E-Cigarettes: Sources, Life Cycle, and Health Risks. *ACS Cent Sci*. Aug 27 2025;11(8):1345-1354. doi:10.1021/acscentsci.5c00641
20. Leonardi-Bee J, Jere ML, Britton J. Exposure to parental and sibling smoking and the risk of smoking uptake in childhood and adolescence: a systematic review and meta-analysis. *Thorax*. Oct 2011;66(10):847-55. doi:10.1136/thx.2010.153379
21. Fluharty M, Taylor AE, Grabski M, Munafò MR. The Association of Cigarette Smoking With Depression and Anxiety: A Systematic Review. *Nicotine Tob Res*. Jan 2017;19(1):3-13. doi:10.1093/ntr/ntw140
22. Medicine Io. *Combating Tobacco Use in Military and Veteran Populations*. The National Academies Press; 2009:380.
23. Mota CL B-SC, Moreira JC, Mitri S. Genetic variability in the neurobiology of nicotine dependence: effects on smoking behavior. *Cad Saúde Colet*. 2023;
24. Bierut LJ, Stitzel JA, Wang JC, et al. Variants in Nicotinic Receptors and Risk for Nicotine Dependence. *American Journal of Psychiatry*. 2008/09/01 2008;165(9):1163-1171. doi:10.1176/appi.ajp.2008.07111711
25. Alves J, Perelman J, Ramos E, Kunst AE. Intergenerational transmission of parental smoking: when are offspring most vulnerable? *Eur J Public Health*. Oct 3 2022;32(5):741-746. doi:10.1093/eurpub/ckac065
26. Gligorić D, Borović Z, Vidović N, Ritan V, Vulovic V. What drives youth smoking initiation in Bosnia and Herzegovina? Evidence from a split-population duration model. *BMJ Open*. Jun 18 2025;15(6):e092806. doi:10.1136/bmjopen-2024-092806
27. Little MA, Polaskey KM, Pilehvari A, Krukowski RA, Ribisl KM, Pearce TD. Nicotine Pouch Use Among US Military Personnel. *JAMA Netw Open*. Dec 2 2024;7(12):e2451517. doi:10.1001/jamanetworkopen.2024.51517
28. Ban K RE, Khan M, Scheidell J, Charles D, Bryant KJ, et al.,. Does smoking cessation reduce other substance use, psychiatric symptoms, and pain symptoms? Results from an emulated hypothetical randomized trial of US veterans. 2024;
29. Tran DD, Davis JP, Tucker JS, et al. Cigarette Smoking and Depression Among U.S. Veterans: Longitudinal Associations With Posttraumatic Stress Disorder. *Nicotine Tob Res*. Jul 14 2023;25(8):1496-1504. doi:10.1093/ntr/ntad064
30. Smith EA, Malone RE. "Everywhere the soldier will be": wartime tobacco promotion in the US military. *Am J Public Health*. Sep 2009;99(9):1595-602. doi:10.2105/ajph.2008.152983
31. Lutz AMY. WHO JOINS THE MILITARY? A LOOK AT RACE, CLASS, AND IMMIGRATION STATUS. *Journal of Political & Military Sociology*. 2008;36(2):167-188.
32. Mancuso JD, Ahmed AE, Rossi KR. Tobacco and nicotine use among active component U.S. military service members: a comparison of 2018 estimates from the Health Related Behaviors Survey and the Periodic Health Assessment. *Msmr*. Mar 20 2024;31(3):2-12.
33. Patrick S, Boyle C, LaMorte D, Dore M. Tobacco use Prevalence in the Military Health System: A Retrospective Study. *Mil Med*. Nov 5 2024;189(11-12):e2632-e2637. doi:10.1093/milmed/usae208
34. Grier T, Knapik JJ, Canada S, Canham-Chervak M, Jones BH. Tobacco use prevalence and factors associated with tobacco use in new U.S. Army personnel. *J Addict Dis*. Jul 2010;29(3):284-93. doi:10.1080/10550887.2010.489445
35. Larson MJ, Wooten NR, Adams RS, Merrick EL. Military Combat Deployments and Substance Use: Review and Future Directions. *J Soc Work Pract Addict*. 2012;12(1):6-27. doi:10.1080/1533256x.2012.647586

36. Sarah O. Meadows CCE, Rebecca L. Collins, Robin L. Beckman, Joshua Breslau, Erika Litvin Bloom, Michael S. Dunbar, Marylou Gilbert, David Grant, Jennifer Hawes-Dawson, et al. 2018 Department of Defense Health Related Behaviors Survey (HRBS). https://www.rand.org/pubs/research_reports/RR4222.html
37. Affairs UDoV. 2018 Survey of Veterans Enrollees Health and Use of Healthcare Data Findings Report. 2019;
38. NIDA. Substance Use and Military Life DrugFacts.
39. Quality CfBHSa, Administration SAaMHS, Services USDoHaH. 2023 National Survey on Drug Use and Health: Among the Veteran Population Aged 18 or Older. 2024;
40. Health of the Force 2022;
41. Health of the Force Report. <https://ph.health.mil/topics/campaigns/hof/Pages/default.aspx>
42. Fahey MC, Talcott GW, McMurry TL, et al. When, How, & Where Tobacco Initiation and Relapse Occur During U.S. Air Force Technical Training. *Military Medicine*. 2020;185(5-6):e609-e615. doi:10.1093/milmed/usaa016
43. Smith B, Ryan MA, Wingard DL, Patterson TL, Slymen DJ, Macera CA. Cigarette smoking and military deployment: a prospective evaluation. *Am J Prev Med*. Dec 2008;35(6):539-46. doi:10.1016/j.amepre.2008.07.009
44. Pulvers K, Scheuermann TS, Romero DR, Basora B, Luo X, Ahluwalia JS. Classifying a smoker scale in adult daily and nondaily smokers. *Nicotine Tob Res*. May 2014;16(5):591-9. doi:10.1093/ntr/ntt187
45. Carey FR, LeardMann CA, Lehavot K, et al. Health Disparities Among Lesbian, Gay, and Bisexual Service Members and Veterans. *Am J Prev Med*. Oct 2022;63(4):521-531. doi:10.1016/j.amepre.2022.04.034
46. National Center for Health Statistics. Percentage of current cigarette smoking for adults aged 18 and over, United States.
47. Hammett PJ, Nelson D, Burgess DJ, Fu SS, Pinsker EA. Population Smoking Characteristics and Cessation Behaviors in a Nationally Representative Cohort of Hispanic Veterans and Hispanic Non-Veterans. *Military Medicine*. 2019;184(11-12):e594-e600. doi:10.1093/milmed/usz102
48. Odani S, Agaku IT, Graffunder CM, Tynan MA, Armour BS. Tobacco Product Use Among Military Veterans - United States, 2010-2015. *MMWR Morb Mortal Wkly Rep*. Jan 12 2018;67(1):7-12. doi:10.15585/mmwr.mm6701a2
49. Danan ER, Sherman SE, Clothier BA, et al. Smoking Cessation among Female and Male Veterans before and after a Randomized Trial of Proactive Outreach. *Womens Health Issues*. Jun 25 2019;29 Suppl 1(Suppl 1):S15-s23. doi:10.1016/j.whi.2019.04.001
50. Blosnich JR, Silenzio VM. Physical health indicators among lesbian, gay, and bisexual U.S. veterans. *Ann Epidemiol*. Jul 2013;23(7):448-51. doi:10.1016/j.annepidem.2013.04.009
51. VHA Office of Health Equity. *National Veteran Health Equity Report 2021. Focus on Veterans Health Administration Patient Experience and Health Care Quality*. 2022. https://www.va.gov/HEALTH/EQUITY/docs/NVHER_2021_Report_508_Conformant.pdf
52. Fu SS, Sherman SE, Yano EM, van Ryn M, Lanto AB, Joseph AM. Ethnic disparities in the use of nicotine replacement therapy for smoking cessation in an equal access health care system. *Am J Health Promot*. 2005 Nov-Dec 2005;20(2):108-116. doi:10.4278/0890-1171-20.2.108
53. Fu SS, Kodl MM, Joseph AM, et al. Racial/Ethnic disparities in the use of nicotine replacement therapy and quit ratios in lifetime smokers ages 25 to 44 years. *Cancer Epidemiol Biomarkers Prev*. Jul 2008;17(7):1640-7. doi:10.1158/1055-9965.Epi-07-2726
54. Fu SS, Burgess D, van Ryn M, Hatsukami DK, Solomon J, Joseph AM. Views on smoking cessation methods in ethnic minority communities: a qualitative investigation. *Prev Med*. Mar 2007;44(3):235-40. doi:10.1016/j.jpmed.2006.11.002

55. Burgess DJ, van Ryn M, Noorbaloochi S, et al. Smoking cessation among African American and white smokers in the Veterans Affairs health care system. *Am J Public Health*. Sep 2014;104 Suppl 4(Suppl 4):S580-7. doi:10.2105/ajph.2014.302023
56. Populations IoMUCoSCiMaV. *Combating Tobacco Use in Military and Veteran Populations*. 2009.
57. 2023 SURVEY OF VETERAN ENROLLEES' HEALTH AND USE OF HEALTH CARE. 2023;
58. Office of Strategic Planning and Analysis (OSPA). *2024 SURVEY OF VETERAN ENROLLEES' HEALTH AND USE OF HEALTH CARE*. 2024. <https://www.va.gov/VHASTRATEGY/SOE2024/SOE24.pdf>
59. Barnett PG, Hamlett-Berry K, Sung HY, Max W. Health care expenditures attributable to smoking in military veterans. *Nicotine Tob Res*. May 2015;17(5):586-91. doi:10.1093/ntr/ntu187
60. Barnett PG, Ignacio RV, Kim HM, et al. Cost-effectiveness of real-world administration of tobacco pharmacotherapy in the United States Veterans Health Administration. *Addiction*. Aug 2019;114(8):1436-1445. doi:10.1111/add.14621
61. Duffy SA, Ignacio RV, Kim HM, et al. Effectiveness of tobacco cessation pharmacotherapy in the Veterans Health Administration. *Tob Control*. Sep 2019;28(5):540-547. doi:10.1136/tobaccocontrol-2018-054473
62. Odani S AI, Graffunder CM, Tynan MA, Armour BS. Tobacco Product Use Among Military Veterans — United States, 2010–2015. https://www.cdc.gov/mmwr/volumes/67/wr/mm6701a2.htm?s_cid=mm6701a2_w#suggest-edcitation
63. Truth Initiative. Tobacco use in the military. <https://truthinitiative.org/research-resources/targeted-communities/tobacco-use-military>
64. Lin J, Zhu K, Hoang PK, et al. Electronic Cigarette Use and Related Factors among Active Duty Service Members in the U.S. Military. *Mil Med*. Mar 2 2020;185(3-4):418-427. doi:10.1093/milmed/usz267
65. Keltner CH, Kao TC, Ahmed A, Mancuso JD. E-cigarette and dual product use as an emerging health threat to the US military. *Tob Prev Cessat*. 2021;7:43. doi:10.18332/tpc/135516
66. Talcott GW, Ebbert JO, Klesges RC, et al. Tobacco Research in the Military: Reflections on 20 Years of Research in the United States Air Force. *Military Medicine*. 2015;180(8):848-850. doi:10.7205/milmed-d-14-00501
67. Dunkle A, Kalpinski R, Ebbert J, Talcott W, Klesges R, Little MA. Predicting smokeless tobacco initiation and re-initiation in the United States Air Force. *Addict Behav Rep*. Jun 2019;9:100142. doi:10.1016/j.abrep.2018.11.001
68. Cornelius ME, Loretan CG, Jamal A, et al. Tobacco Product Use Among Adults - United States, 2021. *MMWR Morb Mortal Wkly Rep*. May 5 2023;72(18):475-483. doi:10.15585/mmwr.mm7218a1
69. Grant BF, Hasin DS, Chou SP, Stinson FS, Dawson DA. Nicotine dependence and psychiatric disorders in the United States: results from the national epidemiologic survey on alcohol and related conditions. *Arch Gen Psychiatry*. Nov 2004;61(11):1107-15. doi:10.1001/archpsyc.61.11.1107
70. Goff DC, Cather C, Evins AE, et al. Medical morbidity and mortality in schizophrenia: guidelines for psychiatrists. *J Clin Psychiatry*. Feb 2005;66(2):183-94; quiz 147, 273-4. doi:10.4088/jcp.v66n0205
71. Steinberg ML, Williams JM, Ziedonis DM. Financial implications of cigarette smoking among individuals with schizophrenia. *Tob Control*. Jun 2004;13(2):206.

72. Colton CW, Manderscheid RW. Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states. *Prev Chronic Dis*. Apr 2006;3(2):A42.
73. Brown S, Inskip H, Barraclough B. Causes of the excess mortality of schizophrenia. *Br J Psychiatry*. Sep 2000;177:212-7. doi:10.1192/bjp.177.3.212
74. Hurt RD, Offord KP, Croghan IT, et al. Mortality following inpatient addictions treatment. Role of tobacco use in a community-based cohort. *Jama*. Apr 10 1996;275(14):1097-103. doi:10.1001/jama.275.14.1097
75. Richardson S, McNeill A, Brose LS. Smoking and quitting behaviours by mental health conditions in Great Britain (1993-2014). *Addict Behav*. Mar 2019;90:14-19. doi:10.1016/j.addbeh.2018.10.011
76. Taylor G, McNeill A, Girling A, Farley A, Lindson-Hawley N, Aveyard P. Change in mental health after smoking cessation: systematic review and meta-analysis. *Bmj*. Feb 13 2014;348:g1151. doi:10.1136/bmj.g1151
77. Taylor GM, Lindson N, Farley A, et al. Smoking cessation for improving mental health. *Cochrane Database Syst Rev*. Mar 9 2021;3(3):Cd013522. doi:10.1002/14651858.CD013522.pub2
78. Papadakis S, Cole AG, Reid RD, et al. Increasing Rates of Tobacco Treatment Delivery in Primary Care Practice: Evaluation of the Ottawa Model for Smoking Cessation. *Ann Fam Med*. May 2016;14(3):235-43. doi:10.1370/afm.1909
79. Pipe AL, Evans W, Papadakis S. Smoking cessation: health system challenges and opportunities. *Tob Control*. Mar 2022;31(2):340-347. doi:10.1136/tobaccocontrol-2021-056575
80. Mangurian C, Newcomer JW, Vittinghoff E, et al. Diabetes Screening Among Underserved Adults With Severe Mental Illness Who Take Antipsychotic Medications. *JAMA Intern Med*. Dec 2015;175(12):1977-9. doi:10.1001/jamainternmed.2015.6098
81. Domino ME, Wells R, Morrissey JP. Serving persons with severe mental illness in primary care-based medical homes. *Psychiatr Serv*. May 1 2015;66(5):477-83. doi:10.1176/appi.ps.201300546
82. Bradford DW, Kim MM, Braxton LE, Marx CE, Butterfield M, Elbogen EB. Access to medical care among persons with psychotic and major affective disorders. *Psychiatr Serv*. Aug 2008;59(8):847-52. doi:10.1176/ps.2008.59.8.847
83. Prochaska JJ, Fromont SC, Leek D, et al. Evaluation of an Evidence-Based Tobacco Treatment Curriculum for Psychiatry Residency Training Programs. *Academic Psychiatry*. 2008/11/01 2008;32(6):484-492. doi:10.1176/appi.ap.32.6.484
84. Kalman D, Morissette SB, George TP. Co-morbidity of smoking in patients with psychiatric and substance use disorders. *Am J Addict*. Mar-Apr 2005;14(2):106-23. doi:10.1080/10550490590924728
85. Schroeder SA, Morris CD. Confronting a neglected epidemic: tobacco cessation for persons with mental illnesses and substance abuse problems. *Annu Rev Public Health*. 2010;31:297-314 1p following 314. doi:10.1146/annurev.publhealth.012809.103701
86. National Institute on Drug Abuse (NIDA). NIDA's website has extensive information on the genetic, environmental, and social factors contributing to both tobacco and drug use, highlighting the overlap. <https://www.drugabuse.gov/>
87. Benowitz NL. Nicotine addiction. *N Engl J Med*. Jun 17 2010;362(24):2295-303. doi:10.1056/NEJMra0809890
88. Volkow ND, Koob G. Brain disease model of addiction: why is it so controversial? *Lancet Psychiatry*. Aug 2015;2(8):677-679. doi:10.1016/s2215-0366(15)00236-9
89. Prochaska JJ. Changing Addictive Behavior. *Handbook of Social Psychology* 2013:794-837.

90. Winhusen TM, Brigham GS, Kropp F, et al. A randomized trial of concurrent smoking-cessation and substance use disorder treatment in stimulant-dependent smokers. *J Clin Psychiatry*. Apr 2014;75(4):336-43. doi:10.4088/JCP.13m08449
91. Kosten TR, O'Connor PG. Management of drug and alcohol withdrawal. *N Engl J Med*. May 1 2003;348(18):1786-95. doi:10.1056/NEJMra020617
92. Koob GF, Volkow ND. Neurobiology of addiction: a neurocircuitry analysis. *Lancet Psychiatry*. Aug 2016;3(8):760-773. doi:10.1016/s2215-0366(16)00104-8
93. Brenna VanFrank MAM, PhD; Monica E. Cornelius, PhD; Anna Schecter; Ahmed Jamal, MBBS; Michael Tynan, MPH. Adult Smoking Cessation — United States, 2022. <https://www.cdc.gov/mmwr/volumes/73/wr/mm7329a1.htm>
94. Gravely S, Cummings KM, Hammond D, et al. Self-Reported Quit Aids and Assistance Used By Smokers At Their Most Recent Quit Attempt: Findings from the 2020 International Tobacco Control Four Country Smoking and Vaping Survey. *Nicotine Tob Res*. Aug 29 2021;23(10):1699-1707. doi:10.1093/ntr/ntab068
95. Treating tobacco use and dependence: 2008 update U.S. Public Health Service Clinical Practice Guideline executive summary. *Respir Care*. Sep 2008;53(9):1217-22.
96. Shiffman S. Smoking-Cessation Treatment Utilization: The Need for a Consumer Perspective. *American Journal of Preventive Medicine*. 2010/03/01/ 2010;38(3, Supplement):S382-S384. doi:<https://doi.org/10.1016/j.amepre.2009.12.004>
97. Miller WR, & Rollnick, S. *Motivational Interviewing, Fourth Edition,: Helping People Change and Grow* Guilford Press; 2023.
98. Lindson N, Thompson TP, Ferrey A, Lambert JD, Aveyard P. Motivational interviewing for smoking cessation. *Cochrane Database Syst Rev*. Jul 31 2019;7(7):Cd006936. doi:10.1002/14651858.CD006936.pub4
99. Carroll KM, Ball SA, Nich C, et al. Motivational interviewing to improve treatment engagement and outcome in individuals seeking treatment for substance abuse: a multisite effectiveness study. *Drug Alcohol Depend*. Feb 28 2006;81(3):301-12. doi:10.1016/j.drugalcdep.2005.08.002
100. Connors GJ, Walitzer KS, Dermen KH. Preparing clients for alcoholism treatment: effects on treatment participation and outcomes. *J Consult Clin Psychol*. Oct 2002;70(5):1161-9. doi:10.1037//0022-006x.70.5.1161
101. Brown JM, & Miller, W. R. Impact of motivational interviewing on participation and outcome in residential alcoholism treatment. *Psychology of Addictive Behaviors*. 1993:211-218.
102. Burke BL, Arkowitz H, Menchola M. The efficacy of motivational interviewing: a meta-analysis of controlled clinical trials. *J Consult Clin Psychol*. Oct 2003;71(5):843-61. doi:10.1037/0022-006x.71.5.843
103. Unger T, Borghi C, Charchar F, et al. 2020 International Society of Hypertension Global Hypertension Practice Guidelines. *Hypertension*. Jun 2020;75(6):1334-1357. doi:10.1161/hypertensionaha.120.15026
104. Federation ID. IDF clinical practice recommendations for managing type 2 diabetes in primary care. 2017;
105. Richter KP, Ellerbeck EF. It's time to change the default for tobacco treatment. *Addiction*. Mar 2015;110(3):381-6. doi:10.1111/add.12734
106. Guideline for guidelines. Veterans Health Administration, Office of Quality & Performance, Evidence Review Subgroup (2019).
107. Ransohoff DF, Pignone M, Sox HC. How to decide whether a clinical practice guideline is trustworthy. *Jama*. Jan 9 2013;309(2):139-40. doi:10.1001/jama.2012.156703
108. Andrews JC, Schünemann HJ, Oxman AD, et al. GRADE guidelines: 15. Going from evidence to recommendation—determinants of a recommendation's direction and

- strength. *Journal of Clinical Epidemiology*. 07/2013 2013;66(7):726-735.
doi:10.1016/j.jclinepi.2013.02.003
109. Andrews J, Guyatt G, Oxman AD, et al. GRADE guidelines: 14. Going from evidence to recommendations: the significance and presentation of recommendations. *J Clin Epidemiol*. Jul 2013;66(7):719-25. doi:10.1016/j.jclinepi.2012.03.013
110. Guyatt GH, Oxman AD, Kunz R, et al. GRADE guidelines: 2. Framing the question and deciding on important outcomes. *J Clin Epidemiol*. Apr 2011;64(4):395-400.
doi:10.1016/j.jclinepi.2010.09.012
111. Schünemann HJ, Fretheim A, Oxman AD. Improving the use of research evidence in guideline development: 10. Integrating values and consumer involvement. *Health Res Policy Syst*. Dec 5 2006;4:22. doi:10.1186/1478-4505-4-22
112. Newberry SJ, Ahmadzai N, Motala A, et al. AHRQ Methods for Effective Health Care. *Surveillance and identification of signals for updating systematic reviews: Implementation and early experience*. Agency for Healthcare Research and Quality (US); 2013.
113. Standards for Guideline Development (2018).
114. Martínez García L, McFarlane E, Barnes S, Sanabria AJ, Alonso-Coello P, Alderson P. Updated recommendations: an assessment of NICE clinical guidelines. *Implementation Science*. 12/2014 2014;9(1):72. doi:10.1186/1748-5908-9-72
115. National Institute for Health and Care Excellence. *The Guidelines Manual*. 2012.
<https://www.nice.org.uk/process/pmg6/chapter/introduction>
116. Financial Relationships Between VHA Health Care Professionals and Industry (2014).
117. Robinson JH, Callister LC, Berry JA, Dearing KA. Patient-centered care and adherence: Definitions and applications to improve outcomes. *Journal of the American Academy of Nurse Practitioners*. 12/2008 2008;20(12):600-607. doi:10.1111/j.1745-7599.2008.00360.x
118. Stewart M, Brown JB, Donner A, et al. The impact of patient-centered care on outcomes. *J Fam Pract*. Sep 2000;49(9):796-804.
119. Consortium NL. Shared Decision Making 2013;
120. Institute of Medicine Committee on Quality of Health Care in A. *Crossing the Quality Chasm: A New Health System for the 21st Century*. National Academies Press (US) Copyright 2001 by the National Academy of Sciences. All rights reserved.; 2001.
121. Society for Medical Decision Making Committee on Standardization of Clinical Algorithms. Proposal for Clinical Algorithm Standards: Society for Medical Decision Making Committee on Standardization of Clinical Algorithms*. *Medical Decision Making*. 06/1992 1992;12(2):149-154. doi:10.1177/0272989X9201200208
122. Heckman CJ, Egleston BL, Hofmann MT. Efficacy of motivational interviewing for smoking cessation: a systematic review and meta-analysis. *Tob Control*. Oct 2010;19(5):410-6.
doi:10.1136/tc.2009.033175
123. McClure JB, Peterson D, Derry H, et al. Exploring the "active ingredients" of an online smoking intervention: a randomized factorial trial. *Nicotine Tob Res*. Aug 2014;16(8):1129-39. doi:10.1093/ntr/ntu057
124. Christiansen BA, Reeder KM, TerBeek EG, Fiore MC, Baker TB. Motivating Low Socioeconomic Status Smokers to Accept Evidence-Based Smoking Cessation Treatment: A Brief Intervention for the Community Agency Setting. *Nicotine Tob Res*. Aug 2015;17(8):1002-11. doi:10.1093/ntr/ntu345
125. Hammett PJ, Japuntich SJ, Sherman SE, et al. Proactive tobacco treatment for veterans with posttraumatic stress disorder. *Psychol Trauma*. Jan 2021;13(1):114-122.
doi:10.1037/tra0000613
126. Rogers ES, Fu SS, Krebs P, et al. Proactive Tobacco Treatment for Smokers Using Veterans Administration Mental Health Clinics. *Am J Prev Med*. May 2018;54(5):620-629.
doi:10.1016/j.amepre.2018.02.011

127. Hartmann-Boyce J, Chepkin SC, Ye W, Bullen C, Lancaster T. Nicotine replacement therapy versus control for smoking cessation. *Cochrane Database Syst Rev*. May 31 2018;5(5):Cd000146. doi:10.1002/14651858.CD000146.pub5
128. Theodoulou A, Chepkin SC, Ye W, et al. Different doses, durations and modes of delivery of nicotine replacement therapy for smoking cessation. *Cochrane Database Syst Rev*. Jun 19 2023;6(6):Cd013308. doi:10.1002/14651858.CD013308.pub2
129. Hajizadeh A, Howes S, Theodoulou A, et al. Antidepressants for smoking cessation. *Cochrane Database Syst Rev*. May 24 2023;5(5):Cd000031. doi:10.1002/14651858.CD000031.pub6
130. Livingstone-Banks J, Fanshawe TR, Thomas KH, et al. Nicotine receptor partial agonists for smoking cessation. *Cochrane Database Syst Rev*. May 5 2023;5(5):Cd006103. doi:10.1002/14651858.CD006103.pub8
131. Weeks GR, Gobarani RK, Abramson MJ, et al. Varenicline and Nicotine Replacement Therapy for Smokers Admitted to Hospitals: A Randomized Clinical Trial. *JAMA Netw Open*. Jun 3 2024;7(6):e2418120. doi:10.1001/jamanetworkopen.2024.18120
132. Oreskovic T, Percac-Lima S, Ashburner JM, et al. Cytisine Versus Varenicline for Smoking Cessation in a Primary Care Setting: A Randomized Non-inferiority Trial. *Nicotine Tob Res*. Aug 19 2023;25(9):1547-1555. doi:10.1093/ntr/ntad065
133. Baker TB, Piper ME, Smith SS, Bolt DM, Stein JH, Fiore MC. Effects of Combined Varenicline With Nicotine Patch and of Extended Treatment Duration on Smoking Cessation: A Randomized Clinical Trial. *Jama*. Oct 19 2021;326(15):1485-1493. doi:10.1001/jama.2021.15333
134. Ramon JM, Morchon S, Baena A, Masuet-Aumatell C. Combining varenicline and nicotine patches: a randomized controlled trial study in smoking cessation. *BMC Med*. Oct 8 2014;12:172. doi:10.1186/s12916-014-0172-8
135. Zhou X, Huang Z, Song Q, et al. Efficacy of combined varenicline and nicotine replacement therapy compared with varenicline or nicotine replacement therapy alone for smoking cessation: A systematic review and meta-analysis. *Addiction*. Nov 10 2025;doi:10.1111/add.70235
136. Anthenelli RM, Benowitz NL, West R, et al. Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. *Lancet*. Jun 18 2016;387(10037):2507-20. doi:10.1016/s0140-6736(16)30272-0
137. Murray RL, Zhang YQ, Ross S, et al. Extended Duration Treatment of Tobacco Dependence: A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. Aug 2022;19(8):1390-1403. doi:10.1513/AnnalsATS.202110-1140OC
138. Hays JT, Hurt RD, Rigotti NA, et al. Sustained-release bupropion for pharmacologic relapse prevention after smoking cessation. a randomized, controlled trial. *Ann Intern Med*. Sep 18 2001;135(6):423-33. doi:10.7326/0003-4819-135-6-200109180-00011
139. Croghan IT, Hurt RD, Dakhil SR, et al. Randomized comparison of a nicotine inhaler and bupropion for smoking cessation and relapse prevention. *Mayo Clin Proc*. Feb 2007;82(2):186-95. doi:10.4065/82.2.186
140. Schlam TR, Fiore MC, Smith SS, et al. Comparative effectiveness of intervention components for producing long-term abstinence from smoking: a factorial screening experiment. *Addiction*. Jan 2016;111(1):142-55. doi:10.1111/add.13153
141. Butler AR, Lindson N, Livingstone-Banks J, et al. Interventions for quitting vaping. *Cochrane Database Syst Rev*. Jan 8 2025;1(1):Cd016058. doi:10.1002/14651858.CD016058.pub2
142. Caponnetto P, Campagna D, Ahluwalia JS, et al. Varenicline and counseling for vaping cessation: a double-blind, randomized, parallel-group, placebo-controlled trial. *BMC Med*. Jul 5 2023;21(1):220. doi:10.1186/s12916-023-02919-2

143. Palmer AM, Carpenter MJ, Rojewski AM, Haire K, Baker NL, Toll BA. Nicotine replacement therapy for vaping cessation among mono and dual users: A mixed methods preliminary study. *Addict Behav.* Apr 2023;139:107579. doi:10.1016/j.addbeh.2022.107579
144. Evins AE, Cather C, Reeder HT, et al. Varenicline for Youth Nicotine Vaping Cessation: A Randomized Clinical Trial. *Jama.* Jun 3 2025;333(21):1876-1886. doi:10.1001/jama.2025.3810
145. Klein EG, Shoben AB, Carpenter KM, et al. A Randomized Clinical Trial of a Quitline Vaping Cessation Intervention: Baseline Characteristics of Young Adult Exclusive E-Cigarette Users Seeking Treatment. *Int J Environ Res Public Health.* Jun 20 2024;21(6)doi:10.3390/ijerph21060809
146. Livingstone-Banks J, Vidyasagan AL, Croucher R, et al. Interventions for smokeless tobacco use cessation. *Cochrane Database Syst Rev.* Apr 15 2025;4(4):Cd015314. doi:10.1002/14651858.CD015314.pub2
147. Danaher BG, Severson HH, Crowley R, et al. Randomized controlled trial examining the adjunctive use of nicotine lozenges with MyLastDip: An eHealth smokeless tobacco cessation intervention. *Internet Interventions.* 2015/03/01/ 2015;2(1):69-76. doi:<https://doi.org/10.1016/j.invent.2014.12.004>
148. Severson HH, Danaher BG, Ebbert JO, et al. Randomized trial of nicotine lozenges and phone counseling for smokeless tobacco cessation. *Nicotine Tob Res.* Mar 2015;17(3):309-15. doi:10.1093/ntr/ntu145
149. Hatsukami D, Jensen J, Allen S, Grillo M, Bliss R. Effects of behavioral and pharmacological treatment on smokeless tobacco users. *J Consult Clin Psychol.* Feb 1996;64(1):153-61. doi:10.1037//0022-006x.64.1.153
150. Hatsukami DK, Grillo M, Boyle R, et al. Treatment of spit tobacco users with transdermal nicotine system and mint snuff. *J Consult Clin Psychol.* Apr 2000;68(2):241-9.
151. Ebbert JO, Dale LC, Patten CA, et al. Effect of high-dose nicotine patch therapy on tobacco withdrawal symptoms among smokeless tobacco users. *Nicotine Tob Res.* Jan 2007;9(1):43-52. doi:10.1080/14622200601078285
152. Ebbert JO, Croghan IT, Schroeder DR, Hurt RD. A randomized phase II clinical trial of high-dose nicotine patch therapy for smokeless tobacco users. *Nicotine Tob Res.* Dec 2013;15(12):2037-44. doi:10.1093/ntr/ntt097
153. Fagerström K, Gilljam H, Metcalfe M, Tonstad S, Messig M. Stopping smokeless tobacco with varenicline: randomised double blind placebo controlled trial. *Bmj.* Dec 6 2010;341:c6549. doi:10.1136/bmj.c6549
154. Ebbert J, Montori VM, Erwin PJ, Stead LF. Interventions for smokeless tobacco use cessation. *Cochrane Database Syst Rev.* Feb 16 2011;(2):Cd004306. doi:10.1002/14651858.CD004306.pub4
155. Wong J, Abrishami A, Yang Y, et al. A perioperative smoking cessation intervention with varenicline: a double-blind, randomized, placebo-controlled trial. *Anesthesiology.* Oct 2012;117(4):755-64. doi:10.1097/ALN.0b013e3182698b42
156. Warner D, Kadimpati S. Nicotine lozenges to promote brief preoperative abstinence from smoking: pilot study. *Clinical Health Promotion - Research and Best Practice for patients, staff and community.* 12/01 2012;2:85-88. doi:10.29102/clinhp.12012
157. Lindson N, Butler AR, McRobbie H, et al. Electronic cigarettes for smoking cessation. *Cochrane Database Syst Rev.* Jan 8 2024;1(1):Cd010216. doi:10.1002/14651858.CD010216.pub8
158. Hajek P, Phillips-Waller A, Przulj D, et al. A Randomized Trial of E-Cigarettes versus Nicotine-Replacement Therapy. *N Engl J Med.* Feb 14 2019;380(7):629-637. doi:10.1056/NEJMoa1808779

159. Myers Smith K, Phillips-Waller A, Pesola F, et al. E-cigarettes versus nicotine replacement treatment as harm reduction interventions for smokers who find quitting difficult: randomized controlled trial. *Addiction*. Jan 2022;117(1):224-233. doi:10.1111/add.15628
160. National Center for Chronic Disease P, Health Promotion Office on S, Health. Publications and Reports of the Surgeon General. *E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General*. Centers for Disease Control and Prevention (US); 2016.
161. Goniewicz ML, Smith DM, Edwards KC, et al. Comparison of Nicotine and Toxicant Exposure in Users of Electronic Cigarettes and Combustible Cigarettes. *JAMA Netw Open*. Dec 7 2018;1(8):e185937. doi:10.1001/jamanetworkopen.2018.5937
162. Hofmann JJ, Poulos VC, Zhou J, Sharma M, Parraga G, McIntosh MJ. Review of quantitative and functional lung imaging evidence of vaping-related lung injury. *Front Med (Lausanne)*. 2024;11:1285361. doi:10.3389/fmed.2024.1285361
163. Smith DM, Christensen C, van Bommel D, et al. Exposure to Nicotine and Toxicants Among Dual Users of Tobacco Cigarettes and E-Cigarettes: Population Assessment of Tobacco and Health (PATH) Study, 2013-2014. *Nicotine Tob Res*. May 4 2021;23(5):790-797. doi:10.1093/ntr/ntaa252
164. Reddy KP, Schwamm E, Kalkhoran S, Noubary F, Walensky RP, Rigotti NA. Respiratory Symptom Incidence among People Using Electronic Cigarettes, Combustible Tobacco, or Both. *Am J Respir Crit Care Med*. Jul 15 2021;204(2):231-234. doi:10.1164/rccm.202012-4441LE
165. Prevention CfDCa. Health Effects of Vaping. <https://www.cdc.gov/tobacco/e-cigarettes/health-effects.html>
166. Tattersall MC, Hughey CM, Piasecki TM, et al. Cardiovascular and Pulmonary Responses to Acute Use of Electronic Nicotine Delivery Systems and Combustible Cigarettes in Long-Term Users. *Chest*. Sep 2023;164(3):757-769. doi:10.1016/j.chest.2023.03.047
167. Tattersall MC, Esnault S, Stewart R, et al. Effects of an In Vivo Vaping Challenge on In Vitro Interleukin-6 Biosynthesis Pathways in Arterial Endothelial Cells Derived From Human Embryonic Stem Cells. *J Am Heart Assoc*. Jul 18 2023;12(14):e030139. doi:10.1161/jaha.123.030139
168. Erhabor J, Yao Z, Tasdighi E, Benjamin EJ, Bhatnagar A, Blaha MJ. E-cigarette Use and Incident Cardiometabolic Conditions in the All of Us Research Program. *Nicotine & Tobacco Research*. 2025;27(9):1651-1656. doi:10.1093/ntr/ntaf067
169. Malvi A, Khatib MN, Ganesan S, et al. Assessing the impact of electronic nicotine delivery systems on chronic obstructive pulmonary disease: A systematic review and meta-analysis. *Respiratory Medicine*. 2025/05/01/ 2025;241:108059. doi:<https://doi.org/10.1016/j.rmed.2025.108059>
170. Bittoni MA, Carbone DP, Harris RE. Vaping, Smoking and Lung Cancer Risk. *J Oncol Res Ther*. 2024;9(3)doi:10.29011/2574-710x.10229
171. Quach NE, Pierce JP, Chen J, et al. Daily or Nondaily Vaping and Smoking Cessation Among Smokers. *JAMA Netw Open*. Mar 3 2025;8(3):e250089. doi:10.1001/jamanetworkopen.2025.0089
172. Xue Z, Orr-Souza E, Nargis N, Patel M, Nighbor T. Nicotine and Toxicant Exposure among Individuals using both Combustible Cigarettes and E-cigarettes Based on Level of Product Use. *Nicotine Tob Res*. Aug 22 2025;27(9):1591-1599. doi:10.1093/ntr/ntaf053
173. UK Statutory Instruments. The Tobacco and Related Products Regulations <https://www.legislation.gov.uk/uksi/2016/507/contents>
174. European Commission. Electronic cigarettes. https://health.ec.europa.eu/tobacco/product-regulation/electronic-cigarettes_en#safety-and-quality-requirements-for-e-cigarettes
175. Rasmussen M, Lauridsen SV, Pedersen B, Backer V, Tønnesen H. Intensive versus short face-to-face smoking cessation interventions: a meta-analysis. *Eur Respir Rev*. Sep 30 2022;31(165)doi:10.1183/16000617.0063-2022

176. Hartmann-Boyce J, Hong B, Livingstone-Banks J, Wheat H, Fanshawe TR. Additional behavioural support as an adjunct to pharmacotherapy for smoking cessation. *Cochrane Database Syst Rev*. Jun 5 2019;6(6):Cd009670. doi:10.1002/14651858.CD009670.pub4
177. Fang YE, Zhang Z, Wang R, et al. Effectiveness of eHealth Smoking Cessation Interventions: Systematic Review and Meta-Analysis. *J Med Internet Res*. Jul 28 2023;25:e45111. doi:10.2196/45111
178. Whittaker R, McRobbie H, Bullen C, Rodgers A, Gu Y, Dobson R. Mobile phone text messaging and app-based interventions for smoking cessation. Review. *Cochrane Database of Systematic Reviews*. 2019;2019(10)doi:10.1002/14651858.CD006611.pub5
179. Saksiri O, Intarut N. Effectiveness of Text Messaging in Encouraging Smoking Cessation among Non-Communicable Disease Patients: A Randomized Controlled Trial. *Asian Pac J Cancer Prev*. Jul 1 2024;25(7):2493-2498. doi:10.31557/apjcp.2024.25.7.2493
180. Graham AL, Cha S, Papandonatos GD, et al. E-cigarette and combusted tobacco abstinence among young adults: Secondary analyses from a U.S.-based randomized controlled trial of vaping cessation. *Prev Med*. Dec 2022;165(Pt B):107119. doi:10.1016/j.ypmed.2022.107119
181. Blomqvist J, Gunnarsson KU, Bendtsen P, Bendtsen M. Effects of a text messaging smoking cessation intervention amongst online help-seekers and primary health care visitors: findings from a randomised controlled trial. *BMC Med*. Oct 4 2023;21(1):382. doi:10.1186/s12916-023-03073-5
182. Pew Research Center. Mobile Fact Sheet. <https://www.pewresearch.org/internet/fact-sheet/mobile/>
183. Budenz A, Coa K, Grenen E, et al. User Experiences With an SMS Text Messaging Program for Smoking Cessation: Qualitative Study. *JMIR Form Res*. Mar 18 2022;6(3):e32342. doi:10.2196/32342
184. Audrain-McGovern J, Wileyto EP, Ashare R, Albelda B, Manikandan D, Perkins KA. Behavioral activation for smoking cessation and the prevention of smoking cessation-related weight gain: A randomized trial. *Drug Alcohol Depend*. Mar 1 2023;244:109792. doi:10.1016/j.drugalcdep.2023.109792
185. McClure JB, Bricker J, Mull K, Heffner JL. Comparative Effectiveness of Group-Delivered Acceptance and Commitment Therapy versus Cognitive Behavioral Therapy for Smoking Cessation: A Randomized Controlled Trial. *Nicotine Tob Res*. Mar 16 2020;22(3):354-362. doi:10.1093/ntr/nty268
186. Whitton SW, McLeish AC, Godfrey LM, James-Kangal N, Rhoades GK. Partner Assisted Smoking Cessation Treatment: A Randomized Clinical Trial. *Subst Use Misuse*. 2020;55(8):1228-1236. doi:10.1080/10826084.2020.1731548
187. Grischott T, Senn O, Frei A, Rosemann T, Neuner-Jehle S. Comparison of Motivational Short Interventions to Improve Smokers' Health Behavior (The COSMOS Study): A Pragmatic Cluster-Randomized Two-Arm Trial in General Practice. *Nicotine Tob Res*. Jan 1 2023;25(1):102-110. doi:10.1093/ntr/ntac159
188. Ussher MH, Taylor AH, Faulkner GE. Exercise interventions for smoking cessation. *Cochrane Database Syst Rev*. Aug 29 2014;(8):Cd002295. doi:10.1002/14651858.CD002295.pub5
189. Williams CD, Taylor T, Stanton C, Makambi K, Hicks J, Adams-Campbell LL. A Feasibility Study of Smoking Cessation Utilizing an Exercise Intervention among Black Women: 'Quit and Fit'. *J Natl Med Assoc*. Jun 2021;113(3):243-251. doi:10.1016/j.jnma.2020.12.009
190. García-Fernández G, Krotter A, González-Roz A, García-Pérez Á, Secades-Villa R. Effectiveness of including weight management in smoking cessation treatments: A meta-analysis of behavioral interventions. *Addict Behav*. May 2023;140:107606. doi:10.1016/j.addbeh.2023.107606

191. Zhou Y, Feng W, Guo Y, Wu J. Effect of exercise intervention on smoking cessation: a meta-analysis. Systematic Review. *Frontiers in Physiology*. 2023-August-08 2023;Volume 14 - 2023doi:10.3389/fphys.2023.1221898
192. Jackson S, Kale D, Beard E, Perski O, West R, Brown J. Effectiveness of the Offer of the Smoke Free Smartphone App Compared With No Intervention for Smoking Cessation: Pragmatic Randomized Controlled Trial. Article. *Journal of Medical Internet Research*. 2024;26doi:10.2196/50963
193. Wu YS, Cheung YTD, Lee JJJ, et al. Effect of Adding Personalized Instant Messaging Apps to a Brief Smoking Cessation Model in Community Smokers in Hong Kong: Pragmatic Randomized Clinical Trial. *J Med Internet Res*. May 13 2024;26:e44973. doi:10.2196/44973
194. Rupp A, Rietzler S, Di Lellis MA, Weiland T, Tschirner C, Kreuter M. Digital Smoking Cessation With a Comprehensive Guideline-Based App-Results of a Nationwide, Multicentric, Parallel, Randomized Controlled Trial in Germany. *Nicotine Tob Res*. Jun 21 2024;26(7):895-902. doi:10.1093/ntr/ntae009
195. Schlam TR, Baker TB, Piper ME, et al. What to do after smoking relapse? A sequential multiple assignment randomized trial of chronic care smoking treatments. Article. *Addiction (Abingdon, England)*. 2024;119(5):898-914. doi:10.1111/add.16428
196. Klesges RC, Talcott GW, Little MA, et al. Reengagement for Long-Term Smoking-Cessation In Military Personnel, Retirees, Family Members (TRICARE): A Randomized Trial. *Nicotine Tob Res*. Aug 23 2023;25(10):1633-1640. doi:10.1093/ntr/ntad085
197. Klemperer EM, Streck JM, Lindson N, et al. A systematic review and meta-analysis of interventions to induce attempts to quit tobacco among adults not ready to quit. *Exp Clin Psychopharmacol*. Apr 2023;31(2):541-559. doi:10.1037/pha0000583
198. Moore D, Aveyard P, Connock M, Wang D, Fry-Smith A, Barton P. Effectiveness and safety of nicotine replacement therapy assisted reduction to stop smoking: systematic review and meta-analysis. *Bmj*. Apr 2 2009;338:b1024. doi:10.1136/bmj.b1024
199. Ebbert JO, Hughes JR, West RJ, et al. Effect of varenicline on smoking cessation through smoking reduction: a randomized clinical trial. *Jama*. Feb 17 2015;313(7):687-94. doi:10.1001/jama.2015.280
200. Carpenter MJ, Gray KM, Wahlquist AE, et al. A Pilot Randomized Clinical Trial of Remote Varenicline Sampling to Promote Treatment Engagement and Smoking Cessation. *Nicotine Tob Res*. May 24 2021;23(6):983-991. doi:10.1093/ntr/ntaa241
201. Carpenter MJ, Wahlquist AE, Dahne J, et al. Nicotine replacement therapy sampling for smoking cessation within primary care: results from a pragmatic cluster randomized clinical trial. *Addiction*. Jul 2020;115(7):1358-1367. doi:10.1111/add.14953
202. Cheung YTD, Cheung Li WH, Wang MP, Lam TH. Delivery of a Nicotine Replacement Therapy Sample at Outdoor Smoking Hotspots for Promoting Quit Attempts: A Pilot Randomized Controlled Trial. *Nicotine Tob Res*. Aug 24 2020;22(9):1468-1475. doi:10.1093/ntr/ntz138
203. Cunningham JA, Kushnir V, Selby P, Tyndale RF, Zawertailo L, Leatherdale ST. Effect of Mailing Nicotine Patches on Tobacco Cessation Among Adult Smokers: A Randomized Clinical Trial. *JAMA Intern Med*. Feb 2016;176(2):184-90. doi:10.1001/jamainternmed.2015.7792
204. Kushnir V, Sproule BA, Cunningham JA. Mailed distribution of free nicotine patches without behavioral support: Predictors of use and cessation. *Addictive Behaviors*. 2017/04/01/ 2017;67:73-78. doi:<https://doi.org/10.1016/j.addbeh.2016.12.008>
205. Cinciripini PM, Kypriotakis G, Green C, et al. The effects of varenicline, bupropion, nicotine patch, and placebo on smoking cessation among smokers with major depression: A randomized clinical trial. *Depress Anxiety*. May 2022;39(5):429-440. doi:10.1002/da.23259

206. Siskind DJ, Wu BT, Wong TT, Firth J, Kisely S. Pharmacological interventions for smoking cessation among people with schizophrenia spectrum disorders: a systematic review, meta-analysis, and network meta-analysis. *Lancet Psychiatry*. Sep 2020;7(9):762-774. doi:10.1016/s2215-0366(20)30261-3
207. Spanakis P, Peckham E, Young B, Heron P, Bailey D, Gilbody S. A systematic review of behavioural smoking cessation interventions for people with severe mental ill health-what works? *Addiction*. Jun 2022;117(6):1526-1542. doi:10.1111/add.15724
208. Gilbody S, Peckham E, Bailey D, et al. Smoking cessation for people with severe mental illness (SCIMITAR+): a pragmatic randomised controlled trial. *Lancet Psychiatry*. May 2019;6(5):379-390. doi:10.1016/s2215-0366(19)30047-1
209. Gilbody S, Peckham E, Man MS, et al. Bespoke smoking cessation for people with severe mental ill health (SCIMITAR): a pilot randomised controlled trial. *Lancet Psychiatry*. May 2015;2(5):395-402. doi:10.1016/s2215-0366(15)00091-7
210. Bennett ME, Brown CH, Li L, Himelhoch S, Bellack A, Dixon L. Smoking Cessation in Individuals With Serious Mental Illness: A Randomized Controlled Trial of Two Psychosocial Interventions. *J Dual Diagn*. 2015;11(3-4):161-73. doi:10.1080/15504263.2015.1104481
211. George TP, Ziedonis DM, Feingold A, et al. Nicotine transdermal patch and atypical antipsychotic medications for smoking cessation in schizophrenia. *Am J Psychiatry*. Nov 2000;157(11):1835-42. doi:10.1176/appi.ajp.157.11.1835
212. Siru R, Hulse GK, Tait RJ. Assessing motivation to quit smoking in people with mental illness: a review. *Addiction*. May 2009;104(5):719-33. doi:10.1111/j.1360-0443.2009.02545.x
213. Küçükaksu MH, van Meijel B, Jansen L, Hoekstra T, Adriaanse MC. A smoking cessation intervention for people with severe mental illness treated in ambulatory mental health care (KISMET): study protocol of a randomised controlled trial. *BMC Psychiatry*. Feb 16 2023;23(1):108. doi:10.1186/s12888-023-04599-x
214. Cynthia H. Chan AH. Tobacco Smoking and its Drug Interactions in Psychiatric Populations: Implications for Inpatient Care. *Journal of Psychiatry Reform*. 2022;11(3)
215. Zanni S, Del Prete J, Capogrossi A, et al. Influence of cigarette smoking on drugs' metabolism and effects: a systematic review. *Eur J Clin Pharmacol*. May 2025;81(5):667-695. doi:10.1007/s00228-025-03817-7
216. Apollonio D, Philipps R, Bero L. Interventions for tobacco use cessation in people in treatment for or recovery from substance use disorders. *Cochrane Database Syst Rev*. Nov 23 2016;11(11):Cd010274. doi:10.1002/14651858.CD010274.pub2
217. Meacham MC, Ramo DE, Prochaska JJ, et al. A Facebook intervention to address cigarette smoking and heavy episodic drinking: A pilot randomized controlled trial. *J Subst Abuse Treat*. Mar 2021;122:108211. doi:10.1016/j.jsat.2020.108211
218. Fucito LM, Wu R, O'Malley SS, et al. An integrated behavioural intervention combined with varenicline for heavy-drinking smokers: a randomized pilot study. *J Smok Cessat*. Sep 2020;15(3):119-127. doi:10.1017/jsc.2020.13
219. Correa-Fernández V, Díaz-Toro EC, Reitzel LR, et al. Combined treatment for at-risk drinking and smoking cessation among Puerto Ricans: A randomized clinical trial. *Addict Behav*. Feb 2017;65:185-192. doi:10.1016/j.addbeh.2016.10.009
220. Toll BA, Martino S, O'Malley SS, et al. A randomized trial for hazardous drinking and smoking cessation for callers to a quitline. *J Consult Clin Psychol*. Jun 2015;83(3):445-54. doi:10.1037/a0038183
221. Ames SC, Pokorny SB, Schroeder DR, Tan W, Werch CE. Integrated smoking cessation and binge drinking intervention for young adults: a pilot efficacy trial. *Addict Behav*. May 2014;39(5):848-53. doi:10.1016/j.addbeh.2014.02.001

222. Dedert EA, Resick PA, Dennis PA, Wilson SM, Moore SD, Beckham JC. Pilot Trial of a Combined Cognitive Processing Therapy and Smoking Cessation Treatment. *J Addict Med.* Jul/Aug 2019;13(4):322-330. doi:10.1097/adm.0000000000000502
223. Foa EB, Asnaani A, Rosenfield D, Zandberg LJ, Gariti P, Imms P. Concurrent varenicline and prolonged exposure for patients with nicotine dependence and PTSD: A randomized controlled trial. *J Consult Clin Psychol.* Sep 2017;85(9):862-872. doi:10.1037/ccp0000213
224. Hitsman B, Papandonatos GD, Gollan JK, et al. Efficacy and safety of combination behavioral activation for smoking cessation and varenicline for treating tobacco dependence among individuals with current or past major depressive disorder: A 2 × 2 factorial, randomized, placebo-controlled trial. *Addiction.* Sep 2023;118(9):1710-1725. doi:10.1111/add.16209
225. McFall M, Saxon AJ, Malte CA, et al. Integrating tobacco cessation into mental health care for posttraumatic stress disorder: a randomized controlled trial. *Jama.* Dec 8 2010;304(22):2485-93. doi:10.1001/jama.2010.1769
226. Kaye JT, Betts JM, Brubaker E, et al. Behavioral Activation for Smoking Cessation in Veterans with Posttraumatic Stress Disorder: A Randomized Clinical Trial. *Nicotine & Tobacco Research.* 2025;doi:10.1093/ntr/ntaf054
227. Vila-Farinas A, Pérez-Rios M, Montes-Martinez A, et al. Effectiveness of smoking cessation interventions among pregnant women: An updated systematic review and meta-analysis. *Addict Behav.* Jan 2024;148:107854. doi:10.1016/j.addbeh.2023.107854
228. Coleman T, Chamberlain C, Davey MA, Cooper SE, Leonardi-Bee J. Pharmacological interventions for promoting smoking cessation during pregnancy. *Cochrane Database Syst Rev.* Sep 12 2012;(9):Cd010078. doi:10.1002/14651858.Cd010078
229. Force UPST. Interventions for Tobacco Smoking Cessation in Adults, Including Pregnant Persons: US Preventive Services Task Force Recommendation Statement. *JAMA.* 2021;325(3):265-279. doi:10.1001/jama.2020.25019
230. American College of Obstetricians and Gynecologists. Tobacco and Nicotine Cessation During Pregnancy, Committee Opinion. <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2020/05/tobacco-and-nicotine-cessation-during-pregnancy>
231. Zhang YY, Su YZ, Tian ZY, et al. Acupuncture and related acupoint therapies for smoking cessation: An umbrella review and updated meta-analysis. *Tob Induc Dis.* 2024;22doi:10.18332/tid/186147
232. Jackson S, Brown J, Norris E, Livingstone-Banks J, Hayes E, Lindson N. Mindfulness for smoking cessation. *Cochrane Database Syst Rev.* Apr 14 2022;4(4):Cd013696. doi:10.1002/14651858.CD013696.pub2
233. Jha AP, Izaguirre MK, Adler AB. Mindfulness Training in Military Settings: Emerging Evidence and Best-Practice Guidance. *Curr Psychiatry Rep.* Jun 2025;27(6):393-407. doi:10.1007/s11920-025-01608-6
234. Barnes J, McRobbie H, Dong CY, Walker N, Hartmann-Boyce J. Hypnotherapy for smoking cessation. *Cochrane Database Syst Rev.* Jun 14 2019;6(6):Cd001008. doi:10.1002/14651858.CD001008.pub3
235. Mehta DD, Praecht A, Ward HB, et al. A systematic review and meta-analysis of neuromodulation therapies for substance use disorders. *Neuropsychopharmacology.* Mar 2024;49(4):649-680. doi:10.1038/s41386-023-01776-0
236. Chan YH, Chang HM, Lu ML, Goh KK. Targeting cravings in substance addiction with transcranial direct current stimulation: insights from a meta-analysis of sham-controlled trials. *Psychiatry Res.* Jan 2024;331:115621. doi:10.1016/j.psychres.2023.115621
237. Gay A, Cabe J, De Chazeron I, et al. Repetitive Transcranial Magnetic Stimulation (rTMS) as a Promising Treatment for Craving in Stimulant Drugs and Behavioral Addiction: A Meta-Analysis. *J Clin Med.* Jan 26 2022;11(3)doi:10.3390/jcm11030624

238. Sherman SE, Krebs P, York LS, et al. Telephone care co-ordination for tobacco cessation: randomised trials testing proactive versus reactive models. *Tob Control*. Jan 2018;27(1):78-82. doi:10.1136/tobaccocontrol-2016-053327
239. Fu SS, van Ryn M, Sherman SE, et al. Proactive tobacco treatment and population-level cessation: a pragmatic randomized clinical trial. *JAMA Intern Med*. May 2014;174(5):671-7. doi:10.1001/jamainternmed.2014.177
240. Klesges RC, Ebbert JO, Talcott GW, et al. Efficacy of a Tobacco Quitline in Active Duty Military and TRICARE Beneficiaries: A Randomized Trial. *Mil Med*. Aug 2015;180(8):917-25. doi:10.7205/milmed-d-14-00513
241. Fu SS, Hammett P, Nelson D, et al. Evaluating chronic disease approaches to ameliorate tobacco-related health disparities: Study protocol of a hybrid type 1 implementation-effectiveness trial. Article. *Contemporary Clinical Trials Communications*. 2024;42doi:10.1016/j.conctc.2024.101380
242. Danan ER, Joseph AM, Sherman SE, et al. Does Motivation Matter? Analysis of a Randomized Trial of Proactive Outreach to VA Smokers. *J Gen Intern Med*. Aug 2016;31(8):878-87. doi:10.1007/s11606-016-3687-1
243. Wang JH, van Haselen R, Wang M, et al. Acupuncture for smoking cessation: A systematic review and meta-analysis of 24 randomized controlled trials. *Tob Induc Dis*. 2019;17:48. doi:10.18332/tid/109195
244. Kumar A, Ward KD, Mellon L, et al. Medical student INtervention to promote effective nicotine dependence and tobacco HEalthcare (MIND-THE-GAP): single-centre feasibility randomised trial results. *BMC Med Educ*. Dec 11 2017;17(1):249. doi:10.1186/s12909-017-1069-y
245. Richter KP, Catley D, Gajewski BJ, et al. The Effects of Opt-out vs Opt-in Tobacco Treatment on Engagement, Cessation, and Costs: A Randomized Clinical Trial. *JAMA Intern Med*. Apr 1 2023;183(4):331-339. doi:10.1001/jamainternmed.2022.7170
246. Davis DR, Kurti AN, Skelly JM, Redner R, White TJ, Higgins ST. A review of the literature on contingency management in the treatment of substance use disorders, 2009-2014. *Prev Med*. Nov 2016;92:36-46. doi:10.1016/j.ypmed.2016.08.008
247. DePhillippis D, Khazanov G, Christofferson DE, et al. History and current status of contingency management programs in the Department of Veterans Affairs. *Prev Med*. Nov 2023;176:107704. doi:10.1016/j.ypmed.2023.107704
248. Davidson RM, Traxler HK, DeFulio A, Redish AD, Royle JA, Gass HP. Contingency management for monosubstance use disorders: Systematic review and assessment of predicted versus obtained effects. *J Appl Behav Anal*. Jan 2025;58(1):17-35. doi:10.1002/jaba.2922
249. Getty CA, Morande A, Lynskey M, Weaver T, Metrebian N. Mobile telephone-delivered contingency management interventions promoting behaviour change in individuals with substance use disorders: a meta-analysis. *Addiction*. Nov 2019;114(11):1915-1925. doi:10.1111/add.14725
250. Sayegh CS, Huey SJ, Zara EJ, Jhaveri K. Follow-up treatment effects of contingency management and motivational interviewing on substance use: A meta-analysis. *Psychol Addict Behav*. Jun 2017;31(4):403-414. doi:10.1037/adb0000277
251. Nottley C, Gentry S, Livingstone-Banks J, Bauld L, Perera R, Hartmann-Boyce J. Incentives for smoking cessation. *Cochrane Database Syst Rev*. Jul 17 2019;7(7):Cd004307. doi:10.1002/14651858.CD004307.pub6
252. Dallery J, Raiff BR, Grabinski MJ. Internet-based contingency management to promote smoking cessation: a randomized controlled study. *J Appl Behav Anal*. Dec 2013;46(4):750-64. doi:10.1002/jaba.89

253. Cooney JL, Cooper S, Grant C, et al. A Randomized Trial of Contingency Management for Smoking Cessation During Intensive Outpatient Alcohol Treatment. *J Subst Abuse Treat.* Jan 2017;72:89-96. doi:10.1016/j.jsat.2016.07.002
254. Etter JF, Schmid F. Effects of Large Financial Incentives for Long-Term Smoking Cessation: A Randomized Trial. *J Am Coll Cardiol.* Aug 23 2016;68(8):777-85. doi:10.1016/j.jacc.2016.04.066
255. Ledgerwood DM, Arfken CL, Petry NM, Alessi SM. Prize contingency management for smoking cessation: a randomized trial. *Drug Alcohol Depend.* Jul 1 2014;140:208-12. doi:10.1016/j.drugalcdep.2014.03.032
256. Rohsenow DJ, Martin RA, Tidey JW, Colby SM, Monti PM. Treating Smokers in Substance Treatment With Contingent Vouchers, Nicotine Replacement and Brief Advice Adapted for Sobriety Settings. *J Subst Abuse Treat.* Jan 2017;72:72-79. doi:10.1016/j.jsat.2016.08.012
257. Rohsenow DJ, Tidey JW, Martin RA, et al. Contingent vouchers and motivational interviewing for cigarette smokers in residential substance abuse treatment. *J Subst Abuse Treat.* Aug 2015;55:29-38. doi:10.1016/j.jsat.2015.02.010
258. Tevyaw TOL, Colby SM, Tidey JW, et al. Contingency management and motivational enhancement: A randomized clinical trial for college student smokers. *Nicotine & Tobacco Research.* 2009;11(6):739-749. doi:10.1093/ntr/ntp058
259. Secades-Villa R, García-Rodríguez O, López-Núñez C, Alonso-Pérez F, Fernández-Hermida JR. Contingency management for smoking cessation among treatment-seeking patients in a community setting. *Drug Alcohol Depend.* Jul 1 2014;140:63-8. doi:10.1016/j.drugalcdep.2014.03.030
260. Shoptaw S, Rotheram-Fuller E, Yang X, et al. Smoking cessation in methadone maintenance. *Addiction.* Oct 2002;97(10):1317-28; discussion 1325. doi:10.1046/j.1360-0443.2002.00221.x
261. Kock LS, Erath TG, Coleman SRM, Higgins ST, Heil SH. Contingency management interventions for abstinence from cigarette smoking in pregnancy and postpartum: A systematic review and meta-analysis. *Prev Med.* Nov 2023;176:107654. doi:10.1016/j.ypmed.2023.107654
262. Secades-Villa R, Aonso-Diego, G., García-Pérez, Á., & González-Roz, A. . Effectiveness of contingency management for smoking cessation in substance users: A systematic review and meta-analysis. *Journal of Consulting and Clinical Psychology.* 2020:951-964.
263. Poyani Bavishi DH, Colleen Mistler, David M. Ledgerwood, Krysten W. Bold, Keith Sigel, June Weiss, Jessica E. Yager, Steven L. Bernstein, E. Jennifer Edelman. Perspectives on Clinical Pharmacist-Delivered Contingency Management to Promote Smoking Abstinence Among Individuals with HIV: A Qualitative Study. *AIDS and Behavior.* 2025;29(4):1166-1182.
264. Getty CA, Weaver T, Lynskey M, Kirby KC, Dallery J, Metrebian N. Patients' beliefs towards contingency management: Target behaviours, incentives and the remote application of these interventions. *Drug Alcohol Rev.* Jan 2022;41(1):96-105. doi:10.1111/dar.13314
265. Jennifer M. Gierisch P, MPH; Kristy Straits-Tröster, PhD; Patrick S. Calhoun, PhD; Shawn Acheson, PhD; Kim Hamlett-Berry, PhD; Jean C. Beckham, PhD. Tobacco Use Among Iraq- and Afghanistan-Era Veterans: A Qualitative Study of Barriers, Facilitators, and Treatment Preferences. *Prev Chronic Dis.* 2012;9
266. Renaud JM, Halpern MT. Clinical management of smoking cessation: patient factors affecting a reward-based approach. *Patient Prefer Adherence.* Dec 10 2010;4:441-50. doi:10.2147/ppa.S8913

267. Gajewski B, Faseru B, Richter KP. Desire to Quit Smoking, Opt-Out Tobacco Treatment, and Cessation: A Secondary Analysis of a Randomized Clinical Trial. *JAMA Netw Open*. Sep 3 2024;7(9):e2433802. doi:10.1001/jamanetworkopen.2024.33802
268. Reyes-Guzman CM, Pfeiffer RM, Lubin J, et al. Determinants of Light and Intermittent Smoking in the United States: Results from Three Pooled National Health Surveys. *Cancer Epidemiology, Biomarkers & Prevention*. 2017;26(2):228-239. doi:10.1158/1055-9965.Epi-16-0028
269. Samson D, Schoelles KM. AHRQ Methods for Effective Health Care Developing the Topic and Structuring Systematic Reviews of Medical Tests: Utility of PICOTS, Analytic Frameworks, Decision Trees, and Other Frameworks. In: Chang SM, Matchar DB, Smetana GW, Umscheid CA, eds. *Methods Guide for Medical Test Reviews*. Agency for Healthcare Research and Quality (US); 2012.
270. Patnode CD, Henderson JT, Coppola EL, Melnikow J, Durbin S, Thomas RG. Interventions for Tobacco Cessation in Adults, Including Pregnant Persons: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *Jama*. Jan 19 2021;325(3):280-298. doi:10.1001/jama.2020.23541
271. Rigotti NA. Strategies to help a smoker who is struggling to quit. *Jama*. Oct 17 2012;308(15):1573-80. doi:10.1001/jama.2012.13043
272. Cook JW, Baker TB, Fiore MC, et al. Evaluating four motivation-phase intervention components for use with primary care patients unwilling to quit smoking: a randomized factorial experiment. *Addiction*. Nov 2021;116(11):3167-3179. doi:10.1111/add.15528
273. Stead LF, Perera R, Lancaster T. Telephone counselling for smoking cessation. *Cochrane Database Syst Rev*. Jul 19 2006;(3):Cd002850. doi:10.1002/14651858.CD002850.pub2
274. Barry M, Saul J, Bailey L. US quitlines at a crossroads: Utilization, budget, and service trends 2005–2010. *North American Quitline Consortium*. 2010;
275. Free C, Knight R, Robertson S, et al. Smoking cessation support delivered via mobile phone text messaging (txt2stop): a single-blind, randomised trial. *Lancet*. Jul 2 2011;378(9785):49-55. doi:10.1016/s0140-6736(11)60701-0
276. McLaughlin I, Dani JA, De Biasi M. Nicotine withdrawal. *Curr Top Behav Neurosci*. 2015;24:99-123. doi:10.1007/978-3-319-13482-6_4
277. Shiffman S, West R, Gilbert D. Recommendation for the assessment of tobacco craving and withdrawal in smoking cessation trials. *Nicotine Tob Res*. Aug 2004;6(4):599-614. doi:10.1080/14622200410001734067
278. A clinical practice guideline for treating tobacco use and dependence: 2008 update. A U.S. Public Health Service report. *Am J Prev Med*. Aug 2008;35(2):158-76. doi:10.1016/j.amepre.2008.04.009
279. US FDA. OTC Product Information: NicoDerm(R) CQ(R) transdermal system patch, nicotine transdermal system patch. https://www.accessdata.fda.gov/drugsatfda_docs/label/2022/020165Orig1s047lbl.pdf
280. Martínez-Vispo C, Rodríguez-Cano R, López-Durán A, Senra C, Fernández Del Río E, Becoña E. Cognitive-behavioral treatment with behavioral activation for smoking cessation: Randomized controlled trial. *PLoS One*. 2019;14(4):e0214252. doi:10.1371/journal.pone.0214252
281. Vinci C. Cognitive Behavioral and Mindfulness-Based Interventions for Smoking Cessation: a Review of the Recent Literature. *Curr Oncol Rep*. May 16 2020;22(6):58. doi:10.1007/s11912-020-00915-w
282. Kwan YK, Lau Y, Ang WW, Lau ST. Immediate, Short-term, Medium-term, and Long-term effects of Acceptance and Commitment Therapy for Smoking Cessation: A Systematic Review and Meta-Analysis. *Nicotine Tob Res*. Jan 1 2024;26(1):12-22. doi:10.1093/ntr/ntad145