

NCI Monograph 24
Tobacco and Alcohol: Understanding Co-Use to Reduce Cancer Incidence and Mortality

Chapter 10

Future Research Directions

Chapter Contents

Introduction	669
Key Monograph Findings	670
Research Opportunities	672
Improving Measurement and Surveillance	673
Assessing Shared Mechanisms of Tobacco and Alcohol Use and Cancer Risks	674
Assessing Shared Genetic and Neurophysiological Mechanisms Associated With Trajectories of Tobacco and Alcohol Use and Co-Use	675
Developing Interventions to Address Tobacco and Alcohol Use Concurrently	675
Improving Prevention Interventions for Tobacco and Alcohol Use	676
Conducting Policy Research Related to Tobacco and Alcohol Co-Use	676
Addressing Risk Perception of Tobacco and Alcohol Co-Use	677
Conclusion	678
References	679

Chapter 10

Future Research Directions

Introduction

This monograph examines the co-use of tobacco and alcohol across aspects of epidemiology, biology, genetics, clinical treatment, and prevention and policy interventions. The overarching goal of the monograph is to explore how cancer control efforts can be strengthened by considering the role of alcohol use in tobacco use behavior, tobacco use prevention and cessation, and in conferring additional cancer risk and synergistic cancer risks for certain cancers. Tobacco and alcohol are both well-established causes of cancer¹⁻⁴ and are the first- and third-ranked modifiable risk factors for new cancer cases in the United States.⁵ Continued efforts to prevent initiation of tobacco use, increase tobacco cessation, and reduce the harmful effects of alcohol use are critical steps towards further progress in cancer prevention and control.

The chapters in this monograph review and discuss the most up-to-date research on tobacco and alcohol co-use. Key findings are also compared to papers addressing tobacco and alcohol separately. The literature on the effects of the co-use of tobacco and alcohol, or intervention strategies that address co-use, is limited. This is somewhat surprising in light of the long history of public health surveillance documenting the prevalence of tobacco and alcohol use and co-use and convincing evidence for the synergistic effects of these substances on cancer at certain sites.^{6,7} Available evidence indicates that smoking cessation interventions are effective for people who smoke and have an alcohol use disorder. Overall, the evidence indicates that coordinated treatment of tobacco and alcohol co-use is warranted.

Although there is sufficient evidence to support efforts to address co-use of tobacco and alcohol, research gaps concerning how to optimize prevention of initiation and to improve cessation of tobacco use and cessation or reduction of alcohol use remain. The co-use of tobacco and alcohol is driven by complex biological and genetic factors, including the neurobiology of addiction, the physiological effects of tobacco and alcohol exposures, behavioral genetics, carcinogenesis, and psychological processes. Tobacco and alcohol co-use is also influenced by an intricate and interconnected landscape of social, economic, and policy factors. Gaining a deeper understanding of the interplay between tobacco and alcohol use across these numerous, diverse factors holds promise for advancing health promotion and cancer prevention by enhancing support for preventing tobacco initiation, increasing tobacco cessation, and reducing harmful alcohol consumption.

Key Monograph Findings

The preceding chapters have presented the state of the science, as of 2026, regarding what is known about tobacco and alcohol co-use, its effects on cancer risk, and impacts on tobacco control. Overall, the monograph provides considerable evidence supporting greater efforts to address tobacco and alcohol co-use through individual- and population-level interventions informed by research on the many factors that influence tobacco and alcohol use and co-use. The major conclusions of the monograph are detailed in chapter 1 and here:

1. **Tobacco and alcohol are addictive and carcinogenic substances that are commonly used together.** Approximately 12% of adults in the 2015–2019 National Survey on Drug Use and Health reported co-use of cigarettes and alcohol in the past month, representing nearly 30 million people. Adults who use tobacco (e.g., cigarettes, smokeless tobacco, cigars) are more likely to engage in alcohol use, binge drinking, and risky weekly alcohol use than those who do not use tobacco.
2. **Co-use of tobacco and alcohol occurs from the earliest ages of substance use initiation, and its prevalence is substantially higher among certain population subgroups.** Tobacco and alcohol use often begins in adolescence, and long-term use of these two substances makes it more difficult to quit or reduce their use. Adults who report nondaily use of tobacco report the highest prevalence of alcohol use, binge drinking, and risky weekly alcohol use compared with other tobacco use groups. Tobacco use is positively associated with alcohol use across all racial and/or ethnic groups. Compared with the U.S. adult population overall, tobacco and alcohol co-use is elevated in a number of subgroups, including veterans, people living in rural areas, people who are part of a sexual minority group, and people with some types of mental health conditions.
3. **Tobacco use and alcohol consumption individually increase the risk for numerous types of cancer, even at low levels of use, and there is a synergistic increase in risk of squamous cell cancers of the head and neck and esophagus caused by tobacco and alcohol co-use.** In 2019, an estimated 19.3% of incident cancer cases and 28.5% of cancer deaths in the United States were attributable to cigarette smoking. Smoking one or fewer cigarettes per day increases the risk of numerous cancers. Further, an estimated 5.4% of incident cases of cancer and 4.1% of cancer deaths in the United States in 2019 were attributable to alcohol consumption. The risk for head and neck cancers increases with one drink per day and possibly at lower levels of consumption, and the risk of breast cancer increases at one or fewer drinks per day. Strong evidence from multiple countries demonstrates a synergistic relationship between tobacco and alcohol use and risk for squamous cell cancers of the head and neck and esophagus.
4. **Tobacco and alcohol co-use results in substantially increased acetaldehyde exposure.** Acetaldehyde is a potent carcinogen which damages DNA in multiple ways; it is both a component of tobacco smoke and an important metabolite of ethanol. Acetaldehyde plays a crucial role in the synergistic increases in risk observed for squamous cell head and neck and esophageal cancers in response to tobacco and alcohol co-use.

5. **People with genetic variants that reduce the rate of metabolism of acetaldehyde are at significantly increased risk of cancer if they consume alcohol.** An estimated 540 million people worldwide have genetic variants that reduce the rate of metabolism of acetaldehyde by aldehyde dehydrogenase 2 (ALDH2); these genetic variants are most common in East Asian populations. People with this variant who drink alcohol are at increased risk of squamous cell head and neck and esophageal cancers. Addressing alcohol use and tobacco and alcohol co-use represents important education and intervention opportunities to reduce the burden of cancer in this population.
6. **Tobacco and alcohol use affect multiple, complex neurophysiological processes in the brain.** Networks of brain regions influence how people respond to nicotine and ethanol. Shared biologic pathways in the brain, including those involved in risk-taking and impulsivity, interact and drive use of substances including tobacco and alcohol and substance use disorders.
7. **Studies have identified a substantial number of genetic variants that are associated with both alcohol use and tobacco use across populations, providing evidence for shared underlying mechanisms.** A better understanding of the shared biological mechanisms from additional genetic studies will inform efforts to prevent use disorders and develop pharmacotherapies for tobacco and alcohol co-use and polyuse with other substances.
8. **Smoking cessation interventions are effective for people who smoke and have an alcohol use disorder.** Engaging in smoking cessation treatment during treatment for alcohol use disorder does not jeopardize sobriety outcomes. However, many people in treatment for alcohol use disorder who smoke do not receive smoking cessation treatment. This is a missed opportunity to reduce the burden of cancer in this population.
9. **Addressing alcohol use as a part of smoking cessation treatment is highly likely to advance tobacco cessation goals.** Alcohol use, especially heavy alcohol use, is a barrier to quitting smoking. For this reason, people trying to quit smoking should be advised and assisted to reduce or stop their alcohol use. Integrated tobacco use treatments that address both tobacco and alcohol use may increase reach and effectiveness across multiple settings, including inpatient and outpatient clinical settings and community settings.
10. **Ensuring broad access to, and use of, evidence-based therapies for tobacco and alcohol treatment will help reduce cancer incidence and mortality.** Pharmacological and behavioral therapies for both tobacco and alcohol treatment are underutilized, especially the combined use of both types of therapies, which is the most effective treatment approach for both substances. Moreover, increased understanding of individual genetic variation may inform precision medicine approaches to addressing tobacco and alcohol use.

11. **Prevention programs and interventions that address both tobacco and alcohol may be effective to prevent initiation and ongoing use of both substances.** Effective interventions to prevent tobacco and alcohol use, especially among adolescents and young adults, exist at multiple levels, including the individual, group, community, mass media, and policy levels. Evidence suggests that prevention programs that address both tobacco and alcohol use are feasible. Integrated interventions are needed to prevent both tobacco and alcohol use early in life and across different population subgroups. In addition, intervention studies that focus on either tobacco or alcohol but measure effects on both substances will be highly informative.
12. **Factors pertaining to the marketing, sale, and distribution of tobacco and alcohol products (and the policies to address them) influence patterns and prevalence of tobacco and alcohol use individually and may also influence co-use.** Co-exposure to tobacco and alcohol product marketing and retail availability in the same outlets is common, suggesting the potential for cross-product effects. Greater retail availability of tobacco is associated with greater tobacco use among adults, and some evidence shows that greater availability of alcohol is positively associated with alcohol use among adults. In addition, both tobacco and alcohol retail outlets tend to be concentrated in neighborhoods characterized by greater socioeconomic disadvantage. Assessing how tobacco and alcohol industries' strategies for marketing and distribution of their products influence the marketplace and contribute to tobacco and alcohol co-use is important. Improved understanding of such influences can inform policy approaches to reduce the harms caused by tobacco, alcohol, and their co-use.
13. **Addressing the co-use of tobacco and alcohol has the potential to strengthen tobacco control and reduce cancer incidence and mortality.** Further research on tobacco and alcohol co-use will accelerate progress in preventing tobacco use initiation, improving rates of cessation, and avoiding smoking cessation lapses.
14. **Increased public awareness of both tobacco and alcohol as modifiable risk factors for cancer is an important step towards reducing the cancer burden.** Cancer prevention efforts have primarily focused on smoking and heavy alcohol use. The complex marketplace of available products, the high prevalence of co-use of tobacco and alcohol, and the fact that even moderate alcohol consumption and low levels of tobacco use increase cancer risk, pose challenges to researchers and clinicians. Increased public awareness of the cancer risks associated with tobacco and alcohol co-use will help reduce cancer incidence and mortality.

Research Opportunities

This monograph emphasizes the importance of understanding the effects of tobacco and alcohol co-use and reviews state of the science pertaining to co-use as of 2026. Throughout the monograph, each chapter details opportunities for future research efforts. This section highlights research needs by topics that are particularly important and timely as of 2026. These research needs serve as a starting point to develop informed hypotheses and future tobacco and alcohol co-use research projects.

Improving Measurement and Surveillance

Throughout the monograph, measurement is identified as an important area for improvement. Although co-use of tobacco and alcohol is fairly common, there remains a lack of complete and consistent measurement of tobacco and alcohol co-use in many nationally representative health surveys and large cohort studies, as well as a general lack of studies on co-use specifically. As the tobacco product landscape has changed and continues to change over time, it is important also to measure the use of tobacco products with varying characteristics and modes of delivery (e.g., e-cigarettes, heated tobacco products, nicotine pouches) and their co-use with alcohol. Similarly, new alcohol products continue to enter the marketplace, and efforts to measure the use of products such as ready-to-drink alcoholic beverages are needed. For both emerging tobacco and alcohol products, there is a dearth of research on shared determinants of use (such as mental health conditions, peer influences, marketing exposure), patterns of use, and health risks, including dependence, associated with each type of product and their co-use.

Most nationally representative health surveys and epidemiological studies do not include assessment of tobacco and alcohol co-use as well as detailed assessment of the use of these substances individually. This is likely because assessment of tobacco and alcohol use and co-use involves a large number of questions to adequately address the various types of tobacco and alcohol products, frequency, intensity, duration of consumption, and potentially different reference periods. Some studies have included measures of the use of multiple substances. For example, research focused on the effects of prevention interventions among adolescents has examined the use of cannabis alone or use of multiple substances; however, these broad measures are not specific to tobacco and alcohol co-use.

Studies are needed that focus on the duration of co-use patterns over the life course to assess cumulative exposures, which is especially relevant to understanding the risk of cancer. There is a clear need to develop harmonized measures to better capture the lifetime pattern of tobacco and alcohol co-use. For example, there are few cohorts that assess alcohol use beyond current or average use in the past month or year. Thus, the typical non-drinking referent group used in many studies includes both people who have never used alcohol and people who formerly used alcohol but have since quit alcohol use.^{8,9} In addition, better measurement of the interpersonal and contextual factors (e.g., social norms and settings) that contribute to patterns of use of tobacco and alcohol, which is critical for prevention and treatment, are necessary.

Further complicating measurement and surveillance is the lack of tobacco and alcohol biomarkers that account for cumulative exposures. Such biomarkers would contribute to better estimates of lifetime cancer risk and cumulative effects on other health outcomes. For both tobacco and alcohol use, reliance on self-report limits accurate measurement due to both potential recall bias and stigma related to disclosing use patterns, especially for heavy tobacco and alcohol use. Improved assessment of co-use may provide new insights into the behaviors and risks associated with tobacco and alcohol co-use.

Improved measurement efforts should include better sampling, instrument designs, and measurement of important constructs for specific subpopulations, with an emphasis on the unique factors related to tobacco and alcohol co-use among subpopulations. More attention to demographic subgroups, known to have increased risk for co-use or its health effects and who are not always well-sampled in nationally representative surveys (e.g., American Indian

or Alaska Native individuals, sexual minority individuals, individuals who live in low-income communities, and individuals in rural communities), could elucidate unique concerns that could make interventions more effective.^{10,11} Innovative approaches to overcome challenges in sampling and engagement with underrepresented populations could enhance the inclusivity and relevance of co-use research, ultimately helping to achieve better health outcomes. Better measurement of tobacco and alcohol co-use is essential to understand their health impacts, guide effective policies, target interventions, and reduce the health, social, and economic burdens associated with their co-use.

Assessing Shared Mechanisms of Tobacco and Alcohol Use and Cancer Risks

The genetic studies presented in this monograph have identified the thousands of genes associated with tobacco and alcohol use that may help inform future treatments.¹² There are specific underlying biologic contributions, including genetic, to smoking initiation, heaviness of use, cessation, and alcohol use. Substantial research is needed to determine the functional significance of genetic variants shown to be associated with tobacco and alcohol exposures¹³ and whether research on these variants can help inform more effective use of existing therapies and contribute to the development of new ones.¹³ An improved understanding of genetic associations and pathways that overlap between the two substances, enhanced brain imaging studies, and further investigation of influences of environmental exposures are additional avenues that could inform personalized medicine approaches to addressing tobacco and alcohol co-use and reducing cancer risk.

More research about the effects of co-use on the risk of other cancers is needed, especially for less common cancers where sample sizes have not always been sufficient and for cancers where associations with tobacco and alcohol have a more modest strength. Further, research is needed to assess the combined cancer risks for co-use of specific product types beyond cigarettes (e.g., cigars, e-cigarettes, smokeless tobacco) with alcohol. Risk assessments of different patterns of tobacco and alcohol use (e.g., nondaily smoking or episodic drinking) are also incomplete.

Assessing the potential biological underpinnings of different patterns of initiation, use, and co-use of tobacco and alcohol by subpopulation groups may further uncover important considerations. Many studies assess alcohol use and its health effects only in individuals with alcohol use disorders, and additional research is needed on the health effects, including cancer risk, of less frequent and intermittent alcohol use and tobacco and alcohol co-use.

Mechanistic understanding of the interactions between tobacco and alcohol is mixed at present, with a deeper understanding of how they interact in relation to acetaldehyde and aerodigestive cancers, but a more limited understanding of inflammation and hormonal pathways. Few studies assess variation in the exposure effects over time, how they are related to quitting, and testing for their reversibility once an individual has stopped use of one or both substances. Assessment of how changes in tobacco and alcohol use, separately and especially together, influence inflammation, other carcinogenic processes, and cancer risk, as well as how tobacco and alcohol cessation may result in metabolic change, repair of DNA damage, and changes in cancer risk, would be informative. Similarly, more can be learned about the role of the microbiome, specifically on how co-use of tobacco and alcohol (as well as cannabis and other products) influence carcinogenesis via effects on the oral and gut microbiomes. A better understanding

of these potential relationships may provide further opportunities for precision medicine. Notably, more research is also needed on factors modifying cancer risk reduction related to cessation of tobacco and alcohol use and especially co-use. Additional studies are needed to better understand the effect of reducing or stopping drinking for cancer risk in several organ sites, particularly for female breast cancer.¹⁴

Assessing Shared Genetic and Neurophysiological Mechanisms Associated With Trajectories of Tobacco and Alcohol Use and Co-Use

A growing body of genetic and neurophysiological studies, along with cohorts and birth cohorts addressing substance use patterns and cessation, are providing new targets for prevention of initiation and the potential development of new pharmacotherapies for cessation. These targets are based on genetic differences and on the identification and validation of additional phenotypes and endophenotypes associated with tobacco and alcohol use and co-use. Clinical trials incorporating genetic information may improve the effectiveness of treatments for tobacco cessation and alcohol use disorder. However, effective precision prevention and treatment approaches have yet to be developed.

Developing Interventions to Address Tobacco and Alcohol Use Concurrently

Existing evidence-based pharmacological treatments for tobacco cessation, such as varenicline, may prove to be successful for treating tobacco and alcohol co-use. However, other pharmacological treatments, such as glucagon-like peptide-1 (GLP-1) agonists, may be emerging treatments for tobacco and alcohol co-use and present additional options for concurrent treatment. Key research questions remain to identify, implement, and maintain effective tobacco use cessation treatments within the co-use context. Such research would inform efforts to integrate alcohol and tobacco environmental interventions to maximize efficiency and impact on prevention, use patterns, and health outcomes.

This monograph concludes that providing tobacco cessation treatment concurrent with alcohol treatment does not hinder the success of alcohol use disorder treatment. However, more research is needed to develop effective treatments for co-use of tobacco and alcohol for all levels of alcohol use. As of 2026, few interventions are designed to treat both substances; most address treatment of one in the context of use of the other. When people who engage in co-use have risky or harmful levels of alcohol consumption and/or alcohol use disorder, interventions ideally would address both tobacco cessation and alcohol reduction or cessation. Further studies could focus on determining how best to intervene with people who use tobacco and have low to moderate levels of alcohol consumption. More research is also needed on the efficacy of integrating treatment for both behaviors and how to best leverage behavioral support into treatment among people who co-use tobacco and alcohol.

Standardizing methods and reporting protocols for clinical trials focused on the integrated treatment of smoking and alcohol use is crucial, where definitions of co-use and inclusion criteria are reported. Including a broader range of reported levels of drinking in smoking cessation studies will increase the generalizability of findings and could yield increased treatment success outcomes.

Improving Prevention Interventions for Tobacco and Alcohol Use

The risks associated with the use of tobacco and alcohol underscore the importance of identifying effective prevention programs and policy responses to prevent and reduce the use of tobacco and alcohol. Among youth and young adults, preventing initiation and escalation to regular use are important goals for reducing the cancer risks associated with tobacco and alcohol and their co-use. Typically, tobacco prevention programs focus on measuring effects on tobacco use without specifically examining effects on alcohol use, despite shared contexts for use and shared determinants of use. Future research to evaluate the effectiveness of tobacco prevention programs would benefit from examining the effects of the programs on alcohol use and vice versa. Moreover, improved measurement of the effects of prevention programs on the co-use of tobacco and alcohol specifically are needed. Importantly, such studies should measure the use of tobacco, alcohol, and co-use before and after prevention program participation or policy implementation.

Additional research is needed to achieve an optimal balance between providing tailored prevention programs that address both tobacco and alcohol use for individual population subgroups (e.g., American Indian or Alaska Native individuals, sexual minority individuals, individuals who live in low-income communities, and individuals in rural communities), and providing general programs that are effective for the overall population. The monograph highlights that programs integrating tobacco and alcohol prevention throughout adolescence and young adulthood are particularly needed. In addition, because the marketplaces for tobacco and alcohol are constantly evolving, prevention interventions for the various non-cigarette tobacco products used by young people (e.g., e-cigarettes) and co-use with alcohol are needed. In addition, the effects of these co-use patterns on cancer risk are not well understood.

Conducting Policy Research Related to Tobacco and Alcohol Co-Use

Despite existing in the same marketplace and social environment, few studies have investigated the cross-substance effects of tobacco- and alcohol-related economic, environmental, and policy factors. Additional research is needed on how the retail environments for tobacco and alcohol interact, especially regarding cross-promotion via flavors (e.g., wine-flavored cigars) and price promotions and other marketing strategies in shared retail environments. Secondary analyses and original research that investigate the cross-substance impacts of policies on alcohol availability, marketing and countermarketing, and retailer density on tobacco use or the impact of policies on tobacco product availability or use on alcohol consumption, would be useful. This research is needed to understand how alcohol policies could complement or enhance existing efforts to reduce tobacco use. Conceptual and empirical advances are also needed to better understand policy effects on the co-use of tobacco and alcohol.

There is a small body of literature regarding how alcohol pricing policies, such as taxation, influence tobacco use. More research, with attention to study design and quality, is needed to ascertain whether higher alcohol taxes or prices reduce or increase tobacco consumption. Notably, although existing research on cross-price elasticities has shed light on this topic, much of it is outdated and primarily focused on beer and cigarettes. To better understand how

alcohol-related economic factors affect tobacco use, future studies should leverage recent data that reflect the evolving landscape of tobacco and alcohol products. Also, given changes in policies and use patterns related to cannabis, studies may benefit from also including cannabis products in their analyses. There is also a significant gap in research on other alcohol policies, such as minimum age of purchase or warning labels, on tobacco use and co-use.

Additional research is needed to determine whether greater retail availability of alcohol products increases the likelihood of tobacco use and co-use, as well as to understand the impact of online alcohol sales on tobacco initiation, use, and cessation. Studies should also examine the characteristics and locations of retail outlets selling both substances, as the number and distribution of such outlets in the United States is not available. Further analysis of the spatial distribution of tobacco and alcohol retailers in relation to neighborhood demographics, such as socioeconomic status and race and/or ethnicity, is critical to addressing health disparities caused by tobacco. Research should investigate subgroup differences based on race and/or ethnicity and use geolocation and purchase data to investigate disparities in use and access. Additionally, studies on place-based alcohol pricing and its comparison to tobacco pricing across retail environments could highlight environmental inequities and guide future policies.

Addressing Risk Perception of Tobacco and Alcohol Co-Use

The scientific evidence presented in this monograph indicates that greater efforts to address tobacco and alcohol co-use could significantly advance progress in tobacco control and reduce the burden of alcohol use. Addressing tobacco and alcohol co-use is complicated by the fact that researchers, clinicians, practitioners, and people who use tobacco and alcohol may have differing perceptions of the risk that tobacco and alcohol co-use poses related to cancer. The harms of heavy tobacco or alcohol use are generally well-appreciated by the public. In contrast, the harms of less frequent tobacco use (e.g., nondaily cigarette smoking) or alcohol use (e.g., one drink per day) are generally poorly understood by the public.¹⁵ Additionally, data from the 2022 Health Information National Trends Survey (HINTS) found that only 40.6% of U.S. adults recognized that alcohol consumption increases cancer risk.¹⁶

Although guidelines exist to advise people about the harms of both tobacco and alcohol use (e.g., the 2008 Public Health Service Clinical Practice Guideline¹⁷ and the 2020–2025¹⁸ and 2025–2030¹⁹ U.S. Dietary Guidelines for Americans), these guidelines are distinct for each substance and do not reflect the synergistic risk of co-use specifically. Professional societies that inform and use such guidelines for clinical decision-making tend to publish substance-specific journals and sponsor substance-specific conferences, reflecting the separate domain preferences of researchers and practitioners themselves. For clinical practice to change and improve health outcomes, a stronger and more consistent focus on the cancer risk posed by tobacco and alcohol co-use is needed.

Tobacco use and alcohol use are risk factors for cancer and may contribute to worse outcomes following a cancer diagnosis. These behaviors and their co-use are important objectives for education and intervention in the cancer survivor population. In 2022, the National Cancer Institute concluded that compared to continued smoking after a cancer diagnosis, smoking cessation improves outcomes and should be a high priority for patients and their clinicians.²⁰ The 2022 National Comprehensive Cancer Network Guidelines for Survivorship recommend

limiting the intake of alcohol to reduce cancer risk and stress avoidance of alcohol for head and neck cancer survivors due to the risk of recurrence.²¹ Other organizations that have guidelines for the care of cancer survivors, including the American Cancer Society²² and the American Society of Clinical Oncology,²³ make similar recommendations regarding tobacco and alcohol use in this population. Further research to understand optimal dissemination of guidelines to improve screening and counseling by clinicians for tobacco and alcohol use and co-use patterns is clearly needed, as is further research on how to equip health professionals to refer people to treatment for tobacco and alcohol co-use.

Conclusion

This monograph, the 24th volume in the National Cancer Institute's Tobacco Control Monograph Series, provides a comprehensive examination of the state of the science on tobacco and alcohol co-use and the influence of co-use on cancer risk. It examines co-use of tobacco and alcohol with the primary goal of reducing cancer incidence and mortality by better understanding the interplay of tobacco use with alcohol use. As the literature on co-use continues to evolve, it presents opportunities to broaden and deepen the evidence base concerning tobacco and alcohol co-use. The volume concludes that further research on tobacco and alcohol co-use will accelerate progress in preventing tobacco use initiation, improving rates of cessation, and avoiding relapse to smoking and may contribute to the reduction of alcohol use. An important next step in addressing tobacco and alcohol co-use is developing interventions that address co-use at both the individual and population levels. Advancing research on tobacco and alcohol co-use will help shape effective interventions, clinical practice, and policies to mitigate the combined impact of these addictive products on cancer incidence and mortality.

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