



5 A's of smoking cessation
Ask about tobacco use.
Advise tobacco user to quit.
Assess willingness to make a quit attempt.
Assist with the quit attempt.
Arrange follow-up contact care.

NCI TOBACCO CONTROL
MONOGRAPH SERIES

23

Treating Smoking in Cancer Patients: An Essential Component of Cancer Care



About the National Cancer Institute Tobacco Control Monograph Series

The National Cancer Institute established the Tobacco Control Monograph series (formerly the Smoking and Tobacco Control Monograph series) in 1991. The series provides comprehensive scientific reviews of tobacco use, treatment, and prevention topics to inform the work of researchers, clinicians, and public health practitioners working to reduce cancer morbidity and mortality. All 23 Tobacco Control Monographs and their supplemental materials can be downloaded from cancercontrol.cancer.gov/monographs.

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Contents

About the National Cancer Institute Tobacco Control Monograph Series	ii
Foreword	xi
Acknowledgments	xiii
Table of Abbreviations and Acronyms	xx
Glossary	xxi

Chapter 1. Introduction and Overview

Introduction	3
Smoking Among Cancer Patients and Survivors	4
The Consequences of Continued Smoking After a Cancer Diagnosis	5
Addressing Smoking Cessation in Cancer Care Settings	6
Purpose of the Monograph	16
Preparation of the Monograph	18
Key Terminology and Concepts	18
The Multiple Phases of Smoking Cessation Treatment	19
Major Conclusions	21
References	24

Chapter 2. Smoking in Patients with Cancer: Biological Factors

Introduction	31
Tobacco Smoke and Tumorigenesis	32
Chemical Composition of Tobacco Smoke	32
Tobacco Smoke: DNA Damage	33
Tobacco Smoke: Mutational Burden	34
Tobacco Smoke: Mutational Signatures	34
Tobacco Smoke: Cancer Driver Genes	35
Tobacco Smoke: Epigenetic Changes	35
Biological Characteristics of Lung Cancers in Smokers and Never-Smokers	35
Lung Cancer: Driver Genes	36
Lung Cancer: Mutational Burden	36
Lung Cancer: Epigenetic Modifications	37
Lung Cancer: Variation in Gene Expression	37
Therapeutic Implications of Molecular Differences in Lung Cancers	38
The Effects of Tobacco Smoke Exposure on Cancer Cells	38
DNA Damage	39
Changes in Gene Expression	39
Alteration of Cell Cycle Control	39
Promotion of Epithelial-Mesenchymal Transition Associated With Metastasis	39
Promotion of Angiogenesis	40
Alterations Within the Tumor Microenvironment	40
Promotion of Stem Cell–Like Properties	40
Inhibition of Response to Chemotherapeutic Agents	40
Summary	41

Conclusions..... 41
 References..... 42

Chapter 3. Treating Tobacco Use and Dependence in Cancer Populations

Introduction.....54
 Motivation to Quit.....55
 Elements of Effective Smoking Cessation Treatments.....56
 Neurobiological and Behavioral-Motivational Dimensions of Cigarette Smoking:
 Relevance to Treatment57
 Neurobiological Dimensions of Cigarette Smoking57
 Behavioral-Motivational Dimensions of Cigarette Smoking58
 Summary: Neurobiological and Behavioral-Motivational Dimensions of Cigarette
 Smoking58
 Smoking Cessation Treatments in the General Population.....59
 Approach.....59
 Medications for Smoking Cessation59
 Behavioral Interventions for Smoking Cessation65
 Beyond In-Person Counseling: Telephone, Telehealth, and Digital Approaches for
 Smoking Cessation.....72
 Smoking Cessation Treatments Among Patients With Cancer.....79
 Medications for Smoking Cessation Among Patients With Cancer80
 Behavioral Interventions for Smoking Cessation Among Patients With Cancer85
 Relapse Prevention and Chronic Care for Cancer Populations91
 Special Considerations and Barriers Concerning Smoking Cessation Treatment in Cancer
 Care Settings92
 Patient-Level Barriers to Treating Tobacco Use in Cancer Care Settings.....92
 Psychiatric Comorbidity92
 Oncology Treatment–Related Challenges93
 Physical Concerns.....94
 Psychological Aspects94
 Treatment Engagement and Adherence.....94
 Clinician-Level Barriers to Treating Tobacco Use in Cancer Care Settings96
 Leveraging the Opportunity for Intervention.....96
 Barriers to Intervention and Strategies to Overcome Them96
 Changing Clinician Approaches to Smoking Cessation Treatment.....97
 Systems-Level Barriers to Treating Tobacco Use in Cancer Care Settings98
 Summary: Special Considerations and Barriers Concerning Smoking Cessation
 Treatment in Cancer Care Settings98
 Special Topics in the Treatment of Smoking in Patients With Cancer.....99
 Addressing Motivation to Quit99
 Relevance of Pharmacogenetic Intervention: Steps Toward Personalized Medicine.....99
 Treatment Effectiveness and Access Across Different Populations.....101
 The Use of Electronic Nicotine Delivery Systems (ENDS) in Patients With Cancer101
 Prevalence of ENDS Use102
 Health Effects of ENDS.....102

ENDS Use and Cessation From Cigarettes in the General Population.....	103
Randomized Controlled Trials.....	104
ENDS Use and Cessation From Cigarettes in Cancer Populations	106
Published Guidelines on ENDS Use Among Patients With Cancer.....	107
Summary: The Use of ENDS in Patients With Cancer.....	107
Summary.....	108
Conclusions.....	109
References.....	110

Chapter 4. Implementing Smoking Cessation Treatment Programs in Cancer Care Settings: Challenges, Strategies, Innovations, and Models of Care

The Importance of a Systematic Approach to Treating Tobacco Use in Cancer Care Settings.....	139
Introduction.....	139
Application of the Reach, Effectiveness, Adoption, Implementation, Maintenance (RE-AIM) Evaluation Framework.....	142
Reach.....	143
Enhancing Reach via Leveraging the Electronic Health Record (EHR)	143
Enhancing Reach via Use of Clinical Referral Models Including “Ask, Advise, Refer” (AAR) and “Ask, Advise, Connect” (AAC)	145
Treatment Extender: State Quitlines.....	145
Treatment Extenders: National Cancer Institute's (NCI) SmokefreeTXT	150
Utilizing Interactive Voice Response (IVR) Systems	150
Opt-Out Versus Opt-In Models of Smoking Cessation Treatment Delivery.....	151
Using Telehealth.....	152
Summary: Reach.....	152
Effectiveness.....	153
Summary: Effectiveness	154
Adoption	154
Payment Models, Quality Metrics, and Regulation	155
Legislative Action.....	158
Summary: Adoption.....	159
Implementation	160
Summary: Implementation.....	160
Maintenance.....	160
Secure Support From Health Care System Leadership.....	161
Integrate Tobacco Screening and Treatment Strategies Into Clinical Workflows	161
Leverage EHRs	162
Leveraging Tobacco-Relevant Quality Metrics, Payment Models, and Regulatory Policies.....	162
Summary: Maintenance	162
Assessing and Verifying Tobacco Use Status	163
Challenges to Implementing Smoking Cessation Treatment in Cancer Care Settings at the Patient, Clinician, and Health Care System Levels	165
Patient-Level Barriers to Delivering Smoking Cessation Treatment in Cancer Care Settings.....	167

Sociodemographic Differences in Smoking Rates	167
Knowledge of Risks of Smoking and Benefits of Quitting	168
Motivation and Confidence to Quit	169
Psychological Distress	169
Coping.....	170
Summary: Patient-Level Barriers	170
Clinician-Level Barriers to Delivering Smoking Cessation Treatment in Cancer Care Settings.....	170
Lack of Smoking Cessation Knowledge and Training.....	170
Clinician Perceptions of Patients With Cancer.....	172
Summary: Clinician-Level Barriers.....	174
Health Care System–Level Barriers to Delivering Smoking Cessation Treatment in Cancer Care Settings.....	174
Institutional Commitment and Accountability.....	174
Limitations of Clinician Time and Referral Options	175
Funding and Reimbursement for Smoking Cessation Treatment Programs.....	176
Summary: Health Care System–Level Barriers.....	177
A Systems Approach to Providing Smoking Cessation Treatment Across the Cancer Care Continuum.....	177
Smoking Cessation Treatment at Cancer Screening.....	178
Eligibility, Guidelines, and Policy for Lung Cancer Screening (LCS).....	179
Impact of LCS on Smoking	179
Enhancing Smoking Cessation Treatment Reach and Effectiveness in the Context of LCS	179
Cancer Diagnosis	181
Cancer Treatment.....	182
Smoking Cessation Treatment for Patients With Advanced Cancer	182
Post-Treatment and Long-Term Survivorship.....	183
Summary: Cessation Across the Cancer Care Continuum	184
The Economic Rationale for Implementing Smoking Cessation Treatment in Cancer Care	184
Incremental Costs Associated With a Smoking History Among Patients With Cancer.....	184
Cost-Effectiveness of Smoking Cessation Treatment for Individuals With Cancer.....	186
Cost-Effectiveness of Smoking Cessation Treatment in the Context of LCS	187
Summary: Economic Outcomes Related to Smoking in Patients With Cancer.....	187
Disseminating and Implementing Tobacco Cessation Treatment in Cancer Care Settings: The NCI Cancer Center Cessation Initiative (C3I).....	188
Models of Tobacco Cessation Treatment Employed by C3I Sites	191
Point-of-Care Treatment Models	193
Internal Referral Treatment Models.....	193
External Referral Treatment Models	193
Lessons Learned From Implementation of C3I	194
Summary.....	196
Conclusions.....	197
References.....	198

Appendix A. C3I Grantee Publications.....	214
Appendix B. Biochemical Confirmation Reasons and Methods: Evidence Based on the Society for Research on Nicotine and Tobacco (SRNT) Working Group on Biochemical Verification.....	220

Chapter 5. Addressing Smoking in Medically Underserved and Vulnerable Cancer Populations

Introduction.....	226
The Socioecological Model	227
Combinatorial Effects on Vulnerabilities	228
Stigma in Medically Underserved and Vulnerable Populations	228
Prevalence and Trends in Smoking: Relevance to Medically Underserved and Vulnerable Populations With Cancer.....	229
Heterogeneity Among Medically Underserved and Vulnerable Populations.....	232
Cancer Burden	232
Factors Associated With Cancer Burden	234
Summary: Cancer Burden.....	234
Smoking Cessation Treatment for Medically Underserved and Vulnerable Populations in the Clinical Cancer Care Context	234
Smoking Among Socioeconomically Disadvantaged Populations With Cancer	234
Epidemiology	234
Smoking Cessation.....	235
Barriers to Smoking Cessation.....	235
Summary: Smoking Among Socioeconomically Disadvantaged Populations With Cancer	236
Smoking Among Racial and Ethnic Minority Populations With Cancer	236
Epidemiology	236
Smoking Cessation.....	238
Barriers to Smoking Cessation.....	240
Summary: Smoking Among Racial and Ethnic Minority Populations With Cancer.....	242
Smoking Among Rural Populations With Cancer	242
Epidemiology	242
Smoking Cessation.....	242
Barriers to Smoking Cessation.....	243
Summary: Smoking Among Rural Populations with Cancer	244
Smoking Among Sexual and Gender Minority (SGM) Populations with Cancer.....	244
Epidemiology	244
Smoking Cessation.....	245
Barriers to Smoking Cessation.....	246
Summary: Smoking Among SGM Populations With Cancer.....	247
Smoking Among People With Co-Occurring Substance Use Disorders and Cancer	247
Epidemiology	248
Smoking Cessation.....	252
Barriers to Smoking Cessation.....	253
Summary: Smoking Among People With Co-Occurring Substance Use Disorders and Cancer	254

Smoking Among Individuals With Serious Mental Illness (SMI) and Cancer	255
Epidemiology	255
Smoking Cessation.....	255
Barriers to Smoking Cessation.....	257
Summary: Smoking Among Individuals With SMI and Cancer	258
Effectiveness of Smoking Cessation Treatment	260
Summary	261
Conclusions.....	261
References.....	263

Chapter 6. Monograph Conclusions and Future Research Directions

Introduction.....	287
Major Conclusions	287
Chapter Summaries and Conclusions	289
Chapter 1: Introduction and Overview	289
Chapter 2: Smoking in Patients With Cancer: Biological Factors.....	289
Conclusions.....	289
Chapter 3: Treating Tobacco Use and Dependence in Cancer Populations	289
Conclusions.....	289
Chapter 4: Implementing Smoking Cessation Treatment Programs in Cancer Care Settings: Challenges, Strategies, Innovations, and Models of Care	290
Conclusions.....	291
Chapter 5: Addressing Smoking in Medically Underserved and Vulnerable Cancer Populations.....	292
Conclusions.....	292
Future Research Directions.....	292
Clarifying the Effects of Continued Smoking and Smoking Cessation Treatment on Cancer Outcomes	294
Assessing the Economic Effects of Continued Smoking and Cessation After a Cancer Diagnosis.....	294
Achieving Better Tobacco Use Assessment in Cancer Care	295
Addressing Barriers to the Implementation of Effective Treatment of Tobacco Use in Cancer Care.....	295
Understanding the Effects of New Tobacco Products and Other Drug Use in Patients With Cancer	297
Optimizing Smoking Cessation Treatment for Medically Underserved and Vulnerable Populations With Cancer	297
NCI Initiatives to Support Implementation of Smoking Cessation Treatment in Cancer Care and Screening Settings	299
Cancer Center Cessation Initiative (C3I).....	299
Smoking Cessation at Lung Examination (SCALE) Collaboration	300
Conclusion	300
References.....	302

Figures and Tables

Figures

Figure 1.1	Opportunities for Smoking Intervention Across the Cancer Care Continuum	7
Figure 1.2	Phases of Smoking Treatment.....	20
Figure 2.1	Major Pathways of Cancer Causation by Cigarette Smoking	33
Figure 3.1	Smokefree.gov Initiative Digital Interventions	75
Figure 3.2	Examples of Patient-, Clinician-, and Systems-Level Barriers to the Use of Smoking Cessation Treatment in Cancer Care Settings.....	92
Figure 4.1	Typical EHR-Guided Staff Workflow for eReferral of a Patient who Smokes From a Clinical Setting to a State Quitline or NCI SmokefreeTXT	147
Figure 4.2	Joint Commission Tobacco Cessation Measures	157
Figure 4.3	Smoking Cessation Treatment Across the Cancer Care Continuum, From Screening to Long-Term Survivorship.....	178
Figure 4.4	National Cancer Institute (NCI) Cancer Center Cessation Initiative (C3I) Sites	189
Figure 4.5	Elements of Exemplar Tobacco Cessation Treatment Programs: Three Models Used Successfully in Cancer Care Settings.....	192
Figure 4.6	Methods Used by Cancer Center Cessation Initiative (C3I) Sites to Track Program Reach and Effectiveness.....	196
Figure 5.1	Current Cigarette Smoking Prevalence and Quitting by Past-Year Substance Use Disorder Status and Past-Year Cancer Diagnosis Among U.S. Adults Aged 18 and Older, 2015–2018	249

Tables

Table 1.1	Current and Former Smoking Among Adult Cancer Survivors, 2020.....	4
Table 1.2	Findings From the 2014 and 2020 Surgeon General’s Reports	8
Table 1.3	Studies That Compare All-Cause Mortality in Patients Who Quit Smoking After a Cancer Diagnosis With Patients Who Continued After Diagnosis (2017–2021)	10
Table 1.4	Summary of Recommendations for Addressing Tobacco Use Among Cancer Patients	13
Table 1.5	Monograph Terminology	18
Table 2.1	Key Characteristics of Carcinogens	32
Table 3.1	Findings Regarding Interventions for Smoking Cessation and Treatments for Nicotine Dependence From the 2020 Surgeon General’s Report on Smoking Cessation	57
Table 3.2	Effectiveness and Abstinence Rates for Various Medications and Medication Combinations Compared to Placebo at 6-Months Post-quit	60
Table 3.3	Odds of Smoking Cessation Using Medications.....	65

Table 3.4	Odds of Smoking Cessation Using Behavioral Interventions	66
Table 3.5	Elements of Brief Tobacco-Cessation Counseling Based on the PHS Clinical Practice Guideline, <i>Treating Tobacco Use and Dependence: 2008 Update</i>	67
Table 3.6	Studies of Smoking Cessation Interventions Among Patients With Cancer.....	82
Table 4.1	Selected Guidelines and Recommendations from Clinical and Research Organizations for Addressing Tobacco Use in Cancer Care Settings.....	140
Table 4.2	Consensus Assessment Instrument for Tobacco Use in Oncology (C-TUQ, Selected Items)	163
Table 4.3	Challenges to Implementing Smoking Cessation Treatment in Cancer Care Settings at the Patient, Clinician, and Health Care System Levels	165
Table 4.4	Guidance from the Association for the Treatment of Tobacco Use and Dependence (ATTUD)/the Society for Research on Nicotine and Tobacco (SRNT) Regarding Smoking Cessation Treatment and Smoking Cessation Within Lung Cancer Screening Programs.....	181
Table 5.1	Prevalence of Current Cigarette Smoking Among U.S. Adults Aged 18 and Older, by Sex, Race and Ethnicity, Poverty Status, Income, Educational Attainment, and Sexual Orientation, 1994–2020	230
Table 5.2	Substance Use Disorders Among U.S. Adults Aged 18 and Older With and Without a Past-Year Cancer Diagnosis, 2015–2018.....	250
Table 6.1	Summary of Research Needs	293

Foreword

The National Cancer Institute's (NCI's) role in tobacco control has been long, broad, and deep. The uniqueness of NCI's role is due, in part, to the National Cancer Act of 1971, which granted special authorities and responsibilities to the institute, including a determination that NCI's director be appointed directly by the President—the only institute director at the National Institutes of Health with this special status.

The recognition of the 50th anniversary of the National Cancer Act in 2021 illustrated that the dissemination mission assigned by Congress to NCI continues to be manifested in a variety of ways. In the case of tobacco control, the Tobacco Control Monograph series is one key vehicle that NCI uses to disseminate research evidence to a global audience. The monograph series leverages the scientific independence afforded by NCI's authorities with the institute's firmly established credibility throughout the international biomedical and public health communities. In an era plagued by rampant misinformation, the value of authoritative, peer-reviewed summaries of the research literature has never been higher. The rigorously transparent, data-driven, and self-corrective nature of the scientific enterprise enables both medicine and public health to evolve and adapt to ever-changing threats, but only if the latest scientific evidence is provided in a clear and actionable manner to those in a position to use it. This monograph seeks to fulfill that goal by providing clinicians with the latest knowledge concerning smoking among their patients, while providing scientists with clear descriptions of research gaps remaining to be filled.

This monograph describes a variety of research efforts conducted over a span of decades that have sought to describe, explain, and address the nature and consequences of smoking among patients with cancer. Long-standing, recalcitrant problems in medicine and public health can persist for many years until a catalyst (often in the form of a person or people) meets a special opportunity (often in the form of new funding). In the case of tobacco use among patients with cancer, the catalysts were two members of NCI's advisory boards, Karen Emmons, Ph.D., and Graham Colditz, M.D., Dr.P.H. The opportunity was the Beau Biden Cancer MoonshotSM, a special 7-year initiative supported by the 21st Century Cures Act, which was passed by Congress in 2016. During a discussion at a meeting of the NCI advisory boards, Emmons and Colditz suggested that addressing the lack of tobacco use assessment and treatment among all patients treated for cancer at NCI-Designated Cancer Centers would be a worthy goal of the Cancer Moonshot. This author, then serving as the Director of NCI's Division of Cancer Control and Population Sciences, was charged by the then-Acting NCI Director, Douglas R. Lowy, M.D., to propose a major effort to support the enhancement and evaluation of research-based smoking cessation programs within NCI-Designated Cancer Centers. This led to NCI's funding of the Cancer Center Cessation Initiative (C3I), the largest-ever effort to evaluate and improve the quality of care for patients with cancer who use tobacco products.

Although C3I is only one of many research initiatives discussed in this monograph, its launch led to a broader revitalization of NCI's efforts concerning tobacco use among patients with cancer. This monograph is an important component of this broader set of efforts, that have included the strengthening of collaborations with other agencies and organizations; sustained support for Smokefree.gov, the federal government's primary digital health resource for tobacco cessation; and expanded support through research grants to study tobacco cessation program implementation in clinical settings.

The slow rate of progress in providing all patients with cancer with high-quality smoking cessation services is the result of a complex set of barriers at the level of the practitioner, the health care organization, the payer, and the policymaker. Both institutional and sociological barriers are discussed within the chapters that follow. However, it is clear that the lack of financial incentives (i.e., low reimbursement rates for these services) and an insufficient appreciation of the importance of smoking cessation among clinicians and their service line managers have played a role. We hope that the compilation of evidence provided by this monograph will serve as an important catalyst to action through enhancements in payment incentives, professional training, the structure of healthcare systems, and through underscoring the moral imperative of providing the highest quality cancer care to every patient. It is never too late to quit, nor is it too late for all of us to complete the task of enabling every patient with cancer to rid themselves of the most devastating carcinogen known to humanity.

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Table of Abbreviations and Acronyms

Abbreviation/Acronym	Definition
AACR	American Association for Cancer Research
ASCO	American Society of Clinical Oncology
BRFSS	Behavioral Risk Factor Surveillance System
C3I	Cancer Center Cessation Initiative
CBT	Cognitive behavioral therapy
CDC	U.S. Centers for Disease Control and Prevention
EHR	Electronic health record
ENDS	Electronic nicotine delivery systems
FDA	U.S. Food and Drug Administration
IASLC	International Association for the Study of Lung Cancer
NCCN	National Comprehensive Cancer Network
NCI	U.S. National Cancer Institute
NHIS	National Health Interview Survey
NRT	Nicotine replacement therapy
USPSTF	U.S. Preventive Services Task Force

Glossary

Term	Definition
Cancer survivors	A population with a history of a cancer diagnosis, referring to individuals who have completed treatment for active cancer, who have metastatic disease, or who require intermittent treatment.
EHR problem list	A list used within electronic health records (EHR) that outlines the illnesses, injuries, and other factors affecting the health of a patient, usually identifying symptoms, time of occurrence, diagnosis, and treatment or resolution.
Electronic nicotine delivery systems	Electronic nicotine delivery systems (ENDS) represent a rapidly changing class of tobacco products known by many different names, including e-cigarettes, e-cigs, vapes, mods, and tank systems. ENDS deliver an aerosol to the user that typically contains nicotine, propylene glycol, vegetable glycerin, and flavoring chemicals.
Long-term abstinence	Typically refers to 6 or more months without tobacco product use.
Medically underserved and vulnerable populations	Populations who experience disparities in cancer burden, smoking prevalence, access to smoking cessation treatment, and/or smoking cessation treatment success. For the purposes of this monograph, 'vulnerable' refers to a heightened risk for cancer or a higher cancer burden relative to the general population. Medically underserved and vulnerable populations discussed in this monograph include socioeconomically disadvantaged populations, racial and ethnic minority populations, rural populations, sexual and gender minority (SGM) populations, individuals with co-occurring substance use disorders, and individuals with serious mental illness (SMI).
Pack year	A way to measure the amount a person has smoked over a period of time. It is calculated by multiplying the number of packs of cigarettes smoked per day by the number of years the person has smoked. For example, 1 pack year is equal to smoking 1 pack per day for 1 year, or 2 packs per day for half a year.
Patients with cancer	Refers to those newly diagnosed with cancer and in treatment for active or recurrent cancer.
Smoking	Refers to cigarette use.
Smoking cessation treatment	Encompasses treatment aimed at smoking reduction, smoking cessation, and relapse prevention after treatment.
Tobacco use	Refers to use of tobacco products including cigarettes, cigars, hookah, ENDS, and smokeless tobacco.