



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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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.