



Quitting Smoking After a Cancer Diagnosis:

Smoking Cessation Treatment Works and Can Improve Cancer Care

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Cancer Connections

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How Cigarette Smoking Causes Cancer

The infographic features a central image of a lit cigarette. To the left of the cigarette is a list of 15 chemicals, each with its name in bold and a common source below it. To the right of the cigarette is a red box with white text stating 'There are 60 known cancer-causing substances in tobacco.' Below this is a section titled 'THESE HARMFUL CHEMICALS INCLUDE:' followed by three paragraphs describing the effects of Nicotine, Carbon monoxide, and Tar.

TOLUENE
Industrial solvent

CARBON MONOXIDE
Car exhaust

CADMIUM
Batteries

ARSENIC
Rat poison

AMMONIA
Toilet cleaner

RADON
Radioactive gas

HEXAMINE
Barbecue lighter

METHANE
Sewer gas

TAR
Road surfaces

ACETONE
Nail varnish remover

NICOTINE
Pesticide

POLONIUM-210
Radioactive element

METHANOL
Rocket fuel

HYDROGEN CYANIDE
Poison

BUTANE
Lighter fuel

There are 60 known cancer-causing substances in tobacco.

THESE HARMFUL CHEMICALS INCLUDE:

Nicotine – a powerful, fast-acting and addictive drug which reaches your brain in seven seconds. It increases heart rate and raises blood pressure.

Carbon monoxide – a colourless poisonous gas found in high concentrations in tobacco smoke. When you inhale it enters your bloodstream and interferes with the working of your heart and blood vessels.

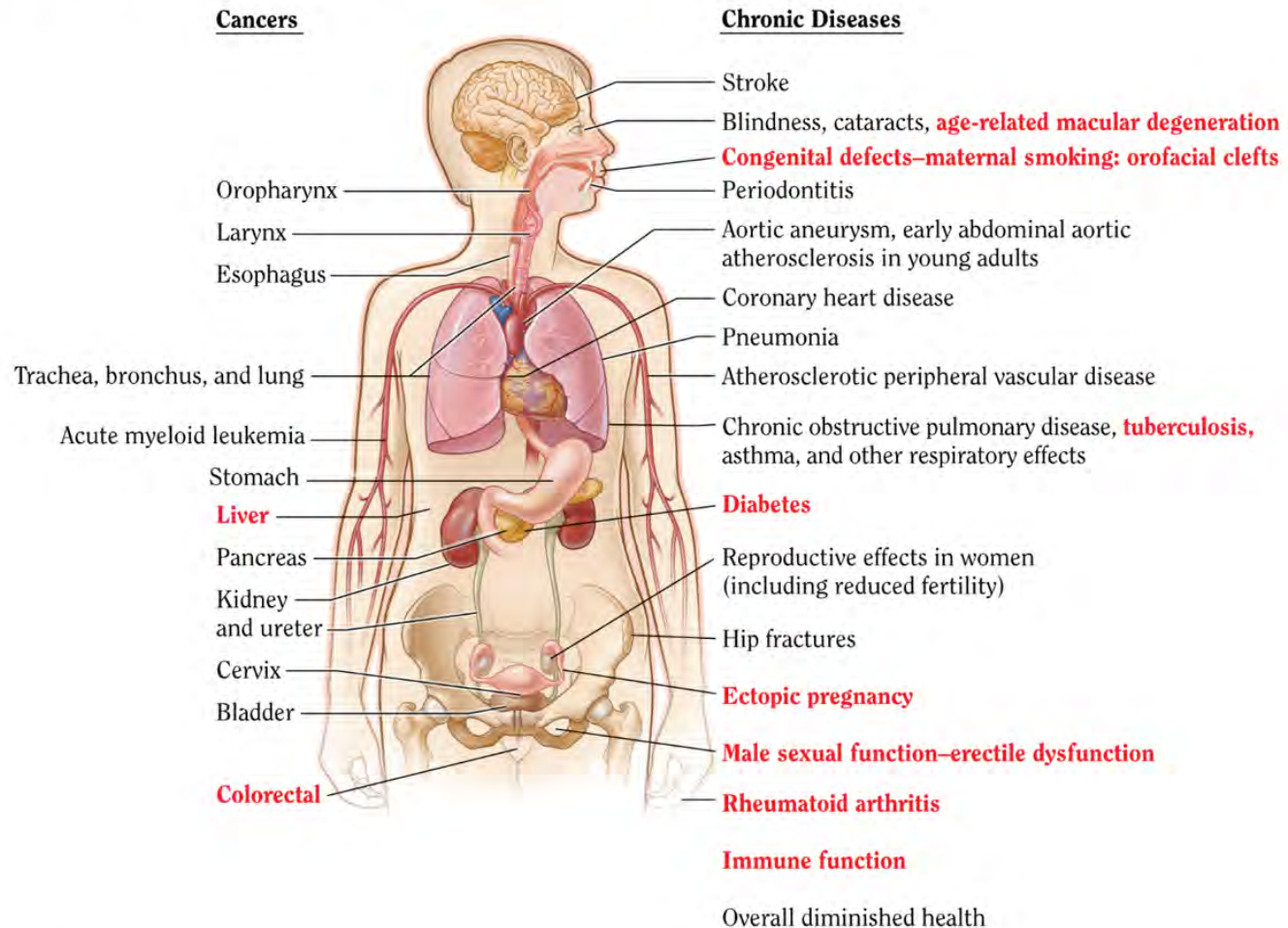
Tar – a sticky brown substance that forms when tobacco cools and thickens. It collects in your lungs and can cause cancer.

7,000
chemicals

69 known
carcinogens

Health Consequences Causally Linked to Smoking

Figure 1A The health consequences causally linked to smoking



What is the rate of continued smoking after a cancer diagnosis?

A. 6%

B. 10%

C. 28%



40%

*Smoking rates among cancer patients are substantially higher than that in their comparable age group within the general population

Impact of Smoking on Cancer Treatment

Surgery	Radiation	Chemotherapy
<ul style="list-style-type: none">• Increased complications from general anesthesia• Increased risk of severe pulmonary complications• Detrimental effects on wound healing, including:<ul style="list-style-type: none">◦ Compromised capillary blood flow◦ Increased vasoconstriction◦ Increased risk of infection	<ul style="list-style-type: none">• Reduced treatment efficacy• Increased toxicity and side effects, including:<ul style="list-style-type: none">◦ Xerostomia (dry mouth)◦ Oral mucositis◦ Loss of taste◦ Pneumonitis◦ Soft-tissue and bone necrosis◦ Poor voice quality	<ul style="list-style-type: none">• Potential exacerbation of side effects including:<ul style="list-style-type: none">◦ Immune suppression◦ Weight loss◦ Fatigue◦ Pulmonary and cardiac toxicity• Increased incidence of infection

Much to Gain from Quitting

Sufficient evidence for a causal relationship:

Decreased risk for developing a new cancer

Improved prognosis

Suggestive evidence for a causal relationship:

Improved response to treatment

Decreased treatment-related toxicity

Decreased risk of recurrence

It is never too late to quit

The Health Consequences
of Smoking—50 Years of Progress

A Report of the Surgeon General

Executive Summary





Tobacco Cessation and Quality Cancer Care

It is "incumbent on the cancer care community to incorporate effective tobacco cessation as an integral component of quality cancer care"

A Call to Action



Addressing a Core Gap in Cancer Care — The NCI Moonshot Program to Help Oncology Patients Stop Smoking

Robert T. Croyle, Ph.D., Glen D. Morgan, Ph.D., and Michael C. Fiore, M.D., M.P.H., M.B.A.

N ENGL J MED 380;6 NEJM.ORG FEBRUARY 7, 2019



 NATIONAL CANCER INSTITUTE

Cancer Center Cessation Initiative

Implementing science-based
tobacco cessation treatment
into clinical practice

October 2018

The Lurie Tobacco Cessation Program in Supportive Oncology

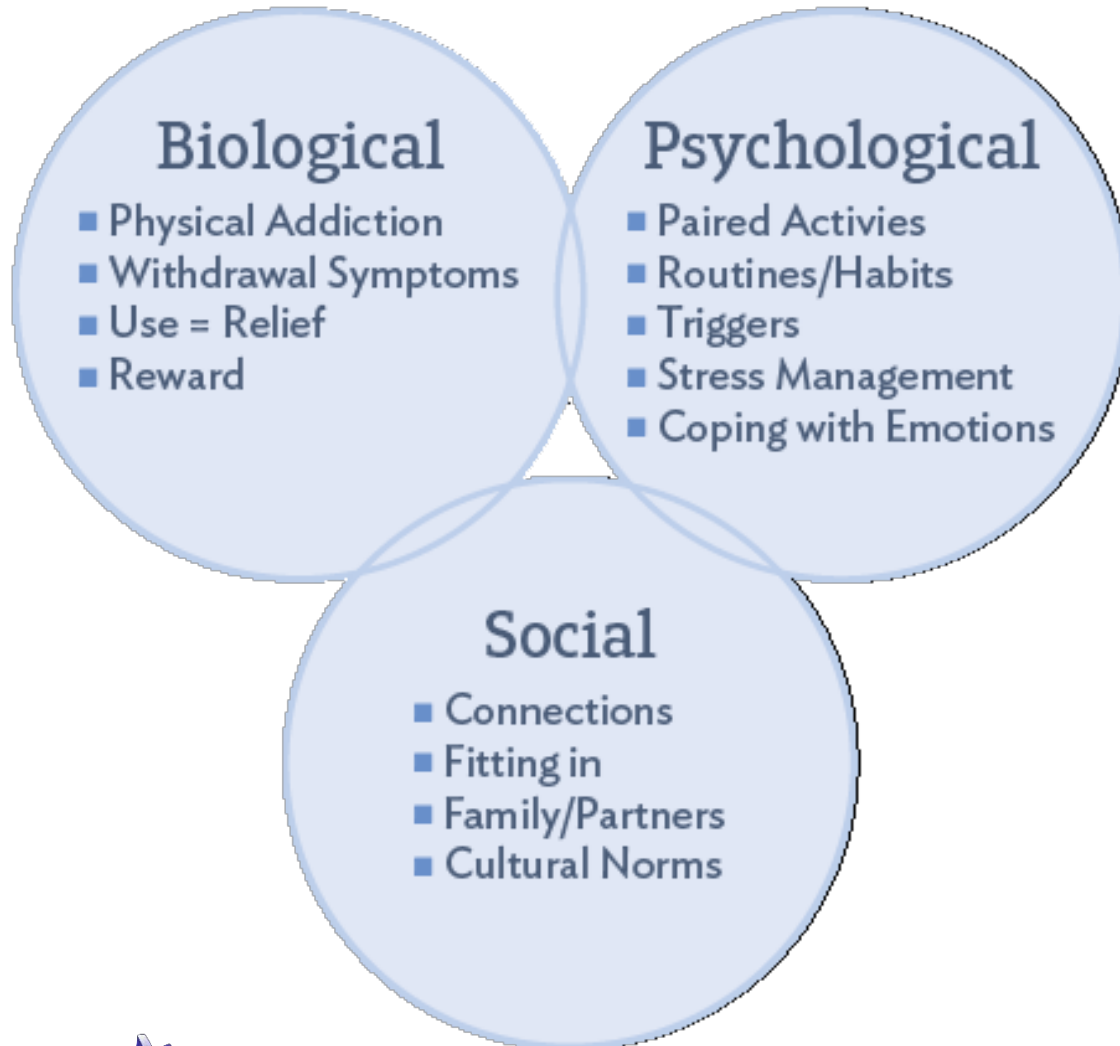


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Framework for Intervention



Our Approach



National
Comprehensive
Cancer
Network®

NCCN Guidelines Version 1.2018 Smoking Cessation

Pharmacotherapy



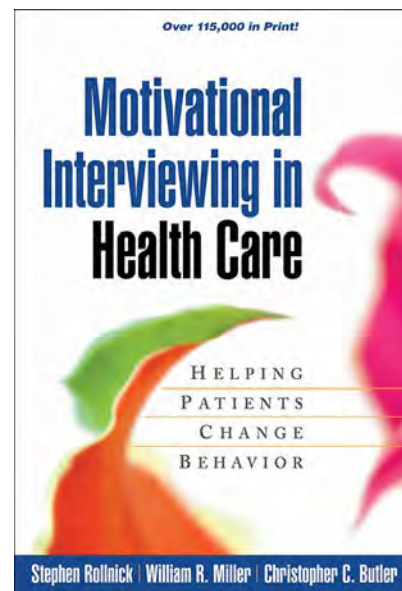
Behavioral Counseling



Behavioral Counseling

- ~ 4 appointments over 12 weeks
 - In- person visits at the Cancer Center
 - Over-the-phone counseling
 - Referral to external/community resources

- Developing practical skills for behavior change
 - Identifying triggers for smoking
 - Managing smoking urges
 - Addressing concerns about quitting



Medication

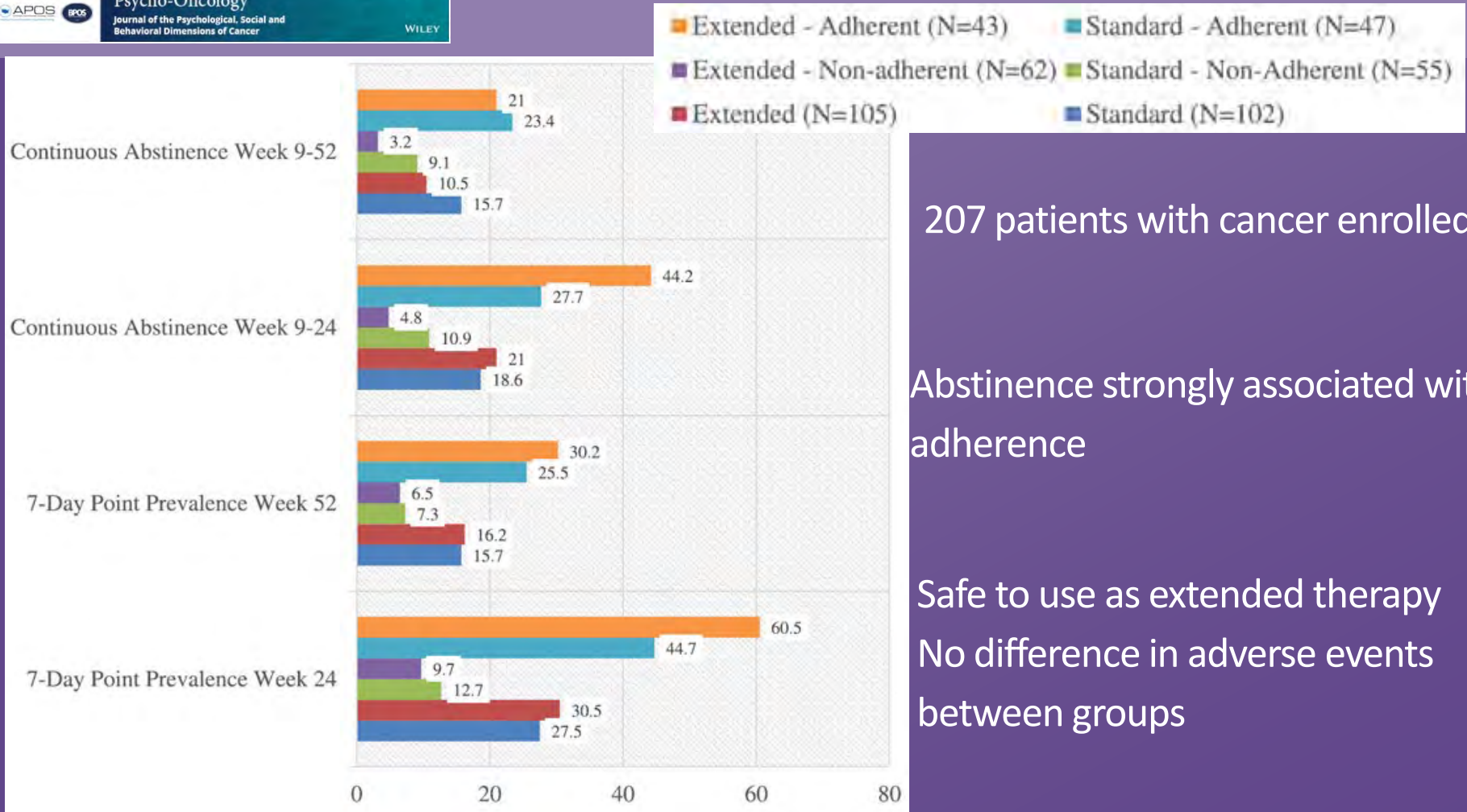
- 7 FDA approved medications:
First line treatments:
 - Combination Nicotine Replacement
 - Varenicline
- Safe and complimentary to cancer treatment regiment



Varenicline and Counseling: A Northwestern Clinical Trial

A placebo-controlled randomized clinical trial of 24 weeks of varenicline to treat nicotine dependence among cancer patients: Cessation and safety outcomes and the importance of adherence

Schnoll et al Psycho-Oncology 2019



207 patients with cancer enrolled

Abstinence strongly associated with adherence

Safe to use as extended therapy
No difference in adverse events between groups

Looking Ahead:





Questions?

Thank You!

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Combination Therapy

General Population

Adding Medication to Counseling

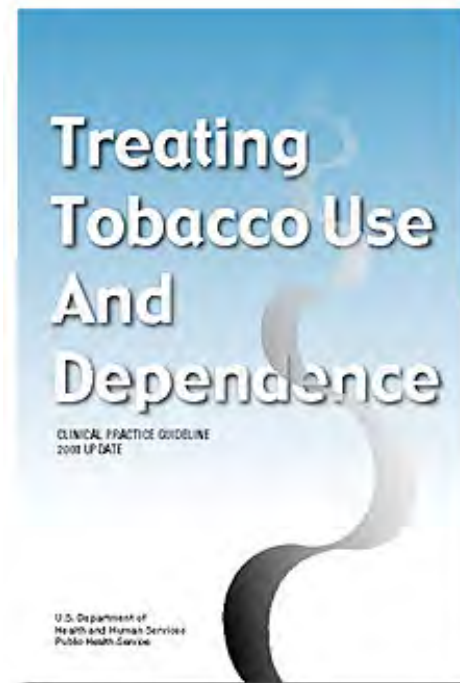
Table 6.24. Meta-analysis (2008): Effectiveness of and estimated abstinence rates for the combination of counseling and medication vs. counseling alone (n = 9 studies)^a

Treatment	Number of arms	Estimated odds ratio (95% C.I.)	Estimated abstinence rate (95% C.I.)
Counseling alone	11	1.0	14.6
Medication and counseling	13	1.7 (1.3–2.1)	22.1 (18.1–26.8)

Adding Counseling to Medication

Table 6.22. Meta-analysis (2008): Effectiveness of and estimated abstinence rates for the combination of counseling and medication vs. medication alone (n = 18 studies)^a

Treatment	Number of arms	Estimated odds ratio (95% C.I.)	Estimated abstinence rate (95% C.I.)
Medication alone	8	1.0	21.7
Medication and counseling	39	1.4 (1.2–1.6)	27.6 (25.0–30.3)



Specific Characteristics of the Cancer Population

Motivated to Quit; Longer window of relapse, More highly addicted

- Patients with cancer have a protracted timeline for smoking relapse
- –Most relapse appears to occur 2-6 months after quitting [Simmons et al. 2013]
- –For smokers in general, relapse risk is greatest 1-2 weeks after quitting [Hughes et al. 2004]

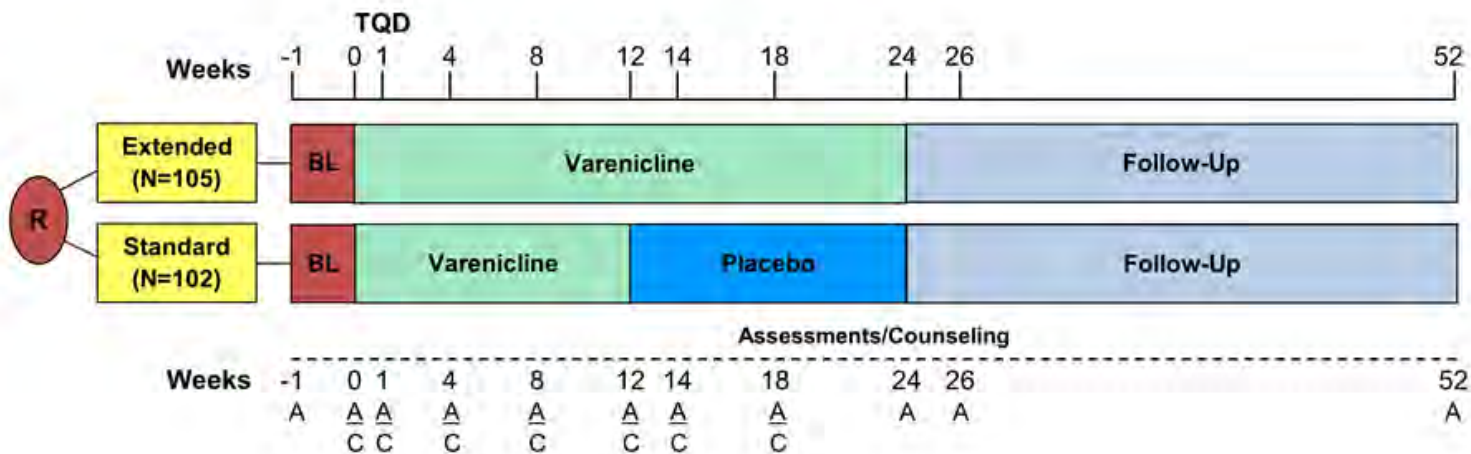
Combination Therapy: Extended Treatment

Cancer population at Northwestern Memorial

A placebo-controlled randomized clinical trial of 24 weeks of varenicline to treat nicotine dependence among cancer patients: Cessation and safety outcomes and the importance of adherence

Schnoll et al Psycho-Oncology 2019

STUDY DESIGN AND TREATMENT



Varenicline: Day 1-3 0.5 mg once daily, Day 4-7 0.5 mg twice daily, Day 8-84 1.0 mg twice daily

Behavioral counseling (7 sessions): 60 mins Pre-Quit (week 0), 30 mins TQD (week 1), 20 mins weeks 4, 8, 12, 14, 18

Summary of Study Results

- For smokers with cancer, varenicline appears to produce a quit rate that generally mirrors that observed with the general population
- Extending varenicline treatment to 24 weeks improved quitting at 24 weeks for participants who were adherent to medication
- There was no increase in side effects, AEs, or SAEs with 24 weeks vs 12 weeks