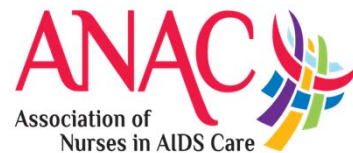


Smoking and HIV: Helping your clients understand the risks and how to stop

Damon Jacobs, LMFT
Jeffrey Kwong, DNP, MPH, ANP-BC, FAANP
Carole Treston, RN, MPH, FAAN

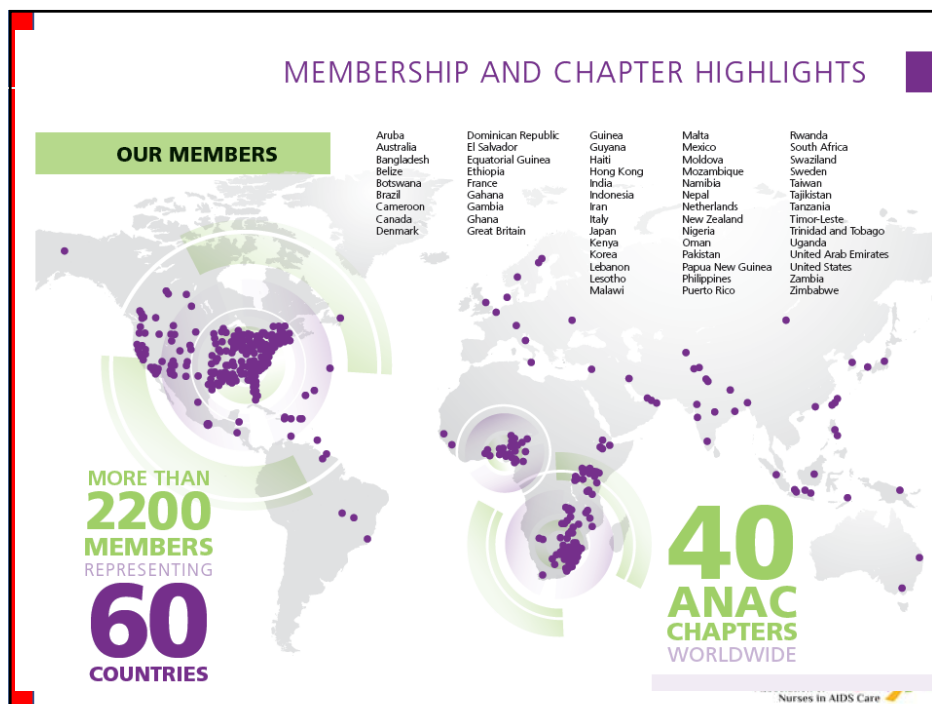
USCA
September 6, 2018



The Association of Nurses in AIDS Care (ANAC)

ANAC is the leading professional HIV nursing association educating, connecting and advocating for nurses concerned about HIV and HIV-related care. Founded in 1987, ANAC represents nurses, nurse practitioners, and other health care providers worldwide. We promote a comprehensive, holistic and evidence-based approach to quality HIV care, and advocate for policies grounded in a human rights approach to health.





Agenda Resources & Opportunities

- Introductions
- Smoking & HIV -Overview
- Smoking & HIV- Harm reduction
- Interactive case studies
- Further Discussion

Association of Nurses in AIDS Care www.nursesinaidscare.org

2018 Annual Conference
Denver November 8-10, 2018





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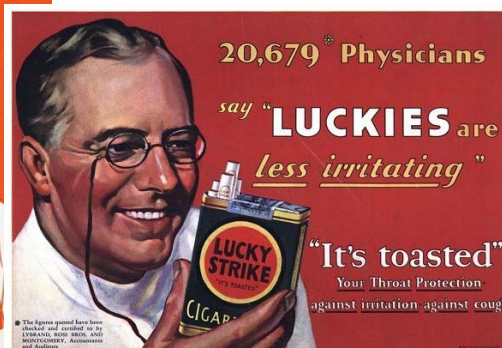


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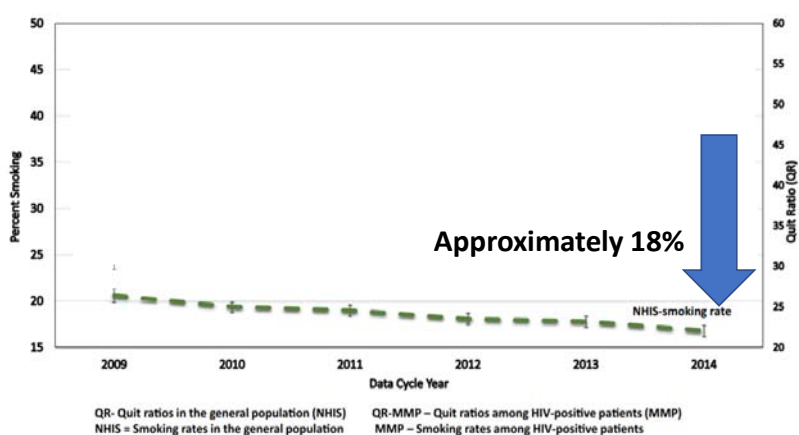
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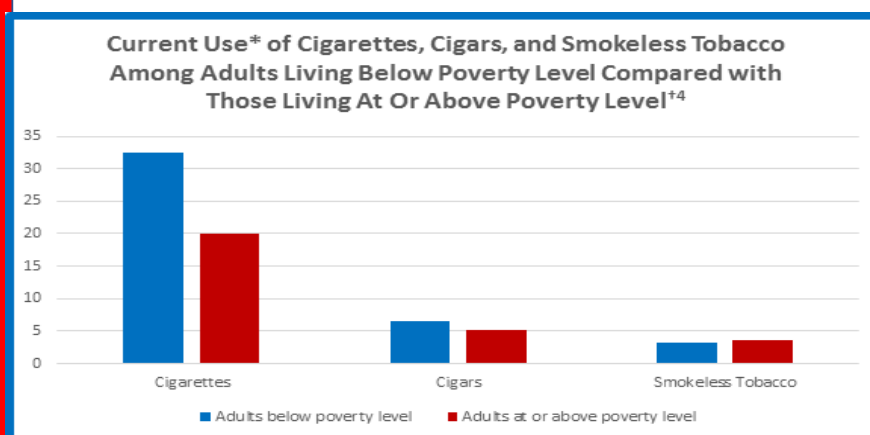
Cigarette Smoking in the General U.S. Population, 2009-2014



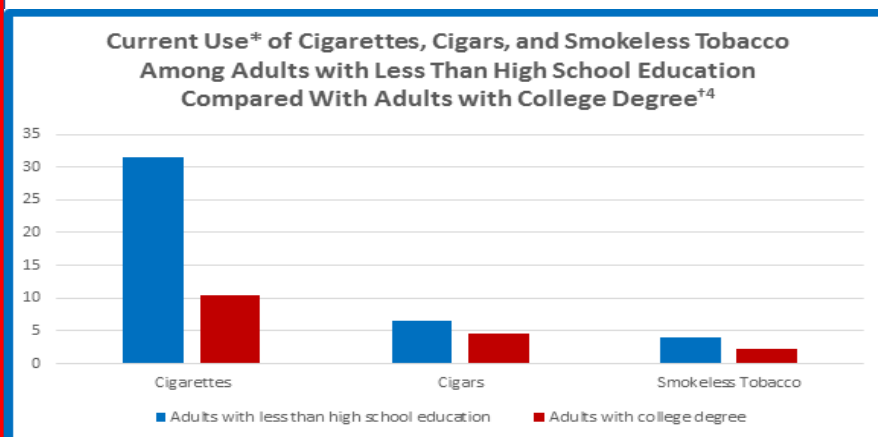
Frazier et al. (2018). Preventive Medicine, 111, 231-234.



Current Tobacco Use, by SES

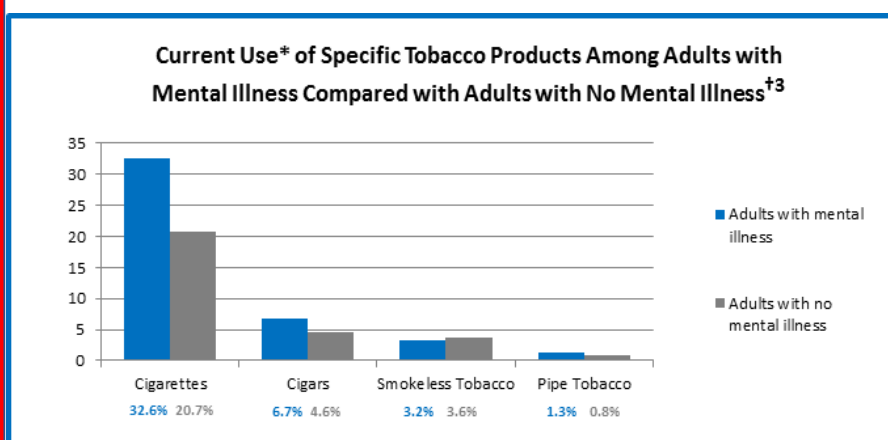


Current Tobacco Use, by Education



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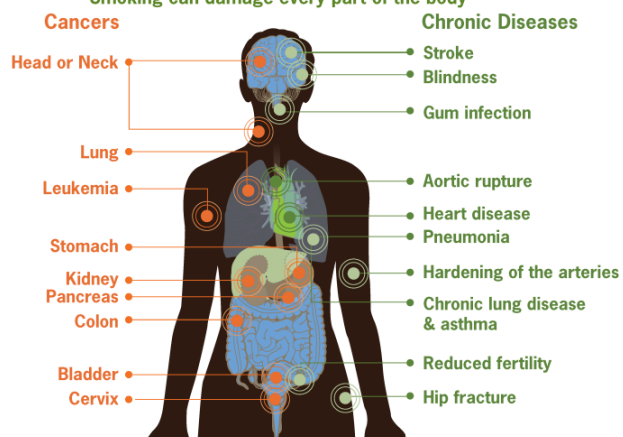
Current Tobacco Use, by Mental Illness



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Risks from Smoking

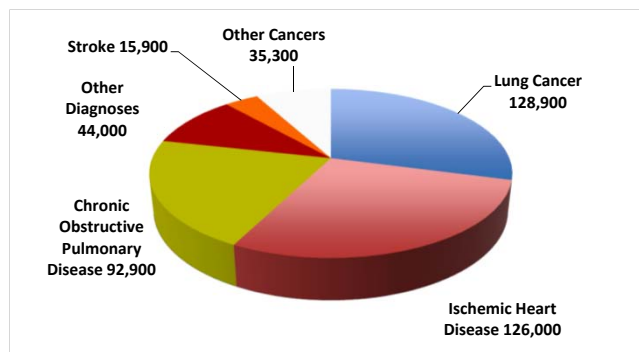
Smoking can damage every part of the body



Source: <http://treatcancer.com/blog/effects-smoking-body/>



More than 480,000 U.S. Deaths Attributable Each Year to Cigarette Smoking*



* CDC, 2018.

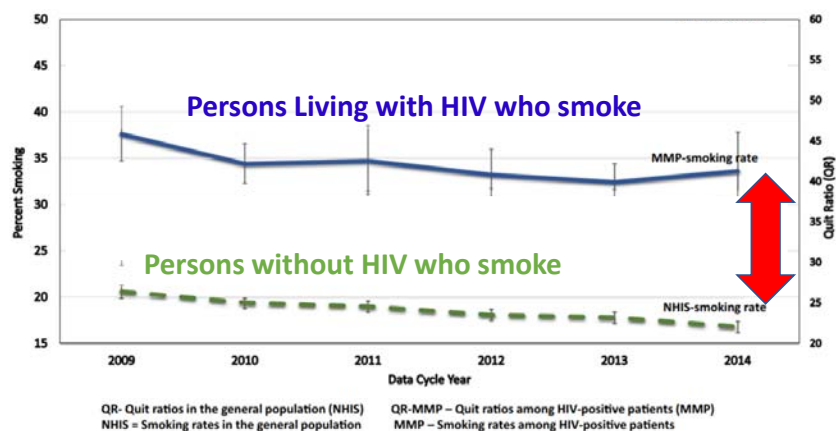


Economic Impact

- **Total economic cost of smoking is more than \$300 billion a year, including:**
 - **Nearly \$170 billion in direct medical care** for adults
 - **More than \$156 billion in lost productivity** due to premature death and exposure to secondhand smoke



Current Smoking: PLWH vs General Population, 2009-2014



Frazier et al. (2018). Preventive Medicine, 111, 231-234.



HIV and Tobacco Use

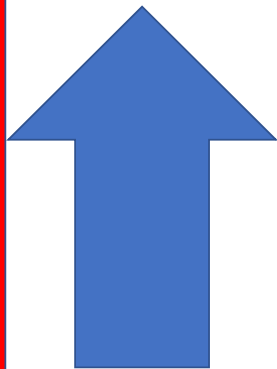
- 54% of PLWH are tobacco users
- PLWH smoker compared to PLWH non-smokers were more likely to be:
 - Depressed
 - Have worse quality of life
 - Lower ART adherence

2016 Medical Monitoring Project, NYS



HIV and Tobacco Use & Mortality

- Smokers vs Never-smokers had **5x higher rates** of non-HIV-related mortality among.



- Pneumonia
- COPD
- Cardiovascular Disease
- Bone mineral density
- Thrush
- Malignancies



HIV, Smoking and Risk of Death

- Current smokers had **86% more death risk** than never smokers¹.
- In PLWH, between **23% and 61%** of deaths were **associated** with smoking.
 - approximately **2x %** of non-PLWH.

¹Justice et al. Drug Alcohol Depend 2016; 161:95–103. ²Lifson et al., Am J Public Health 2010; 100:1896–1903



Cardiovascular Disease risk in PLWH who smoke

73% increase in heart attack risk

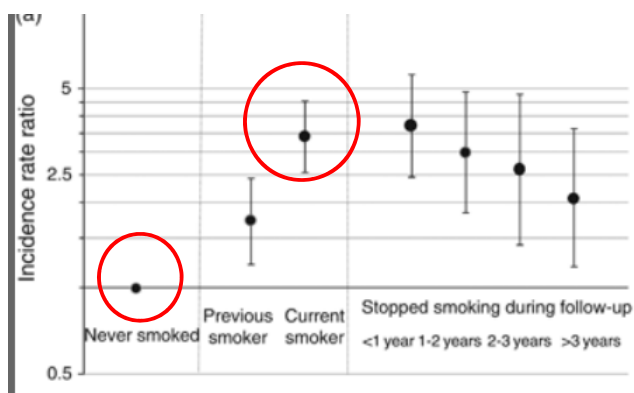
60% increase in coronary heart disease risk



Petoumenos K, et al. Rates of cardiovascular disease following smoking cessation in patients with HIV infection: results from the DAD Study. CROI 2010; Abstract 124.



Rate of Heart Attack in PLWH who Currently Smoke vs Former Smokers

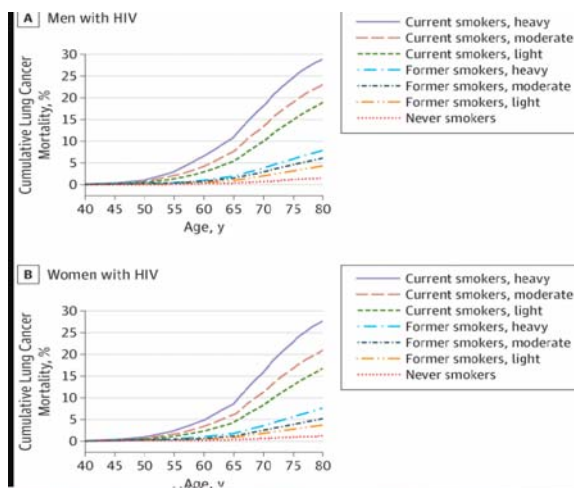


Petoumenos et al. (2011). HIV Medicine, Volume 12, Issue 7



Lung Cancer in PLWH

6-13 times more likely to die from lung cancer than from AIDS-related causes.



Reddy et al. JAMA Intern Med. 2017 Nov 1;177(11):1613-1621



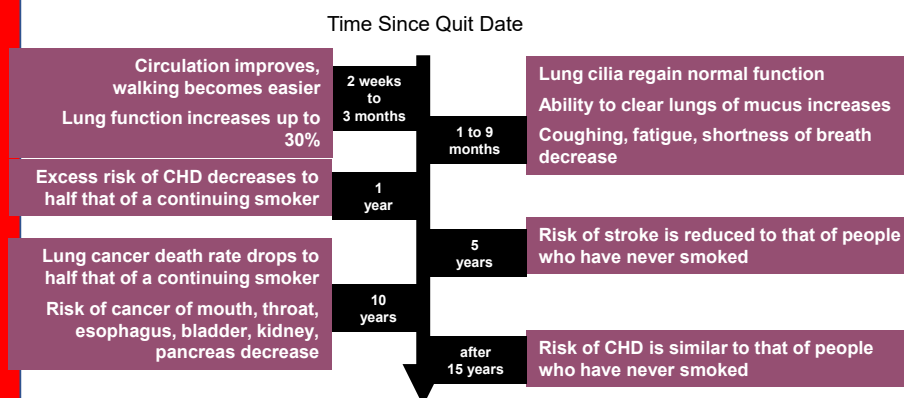
Cancer and Smoking in PLWH

- Among PLWH, approximately **one-fifth of all incident cancer**, and **94% of lung cancer** diagnoses could potentially be prevented by eliminating cigarette smoking.

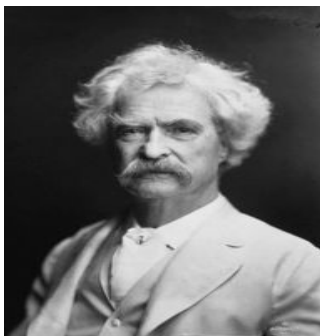


Altekruse et al. 2018, AIDS, 32(4).

QUITTING: HEALTH BENEFITS



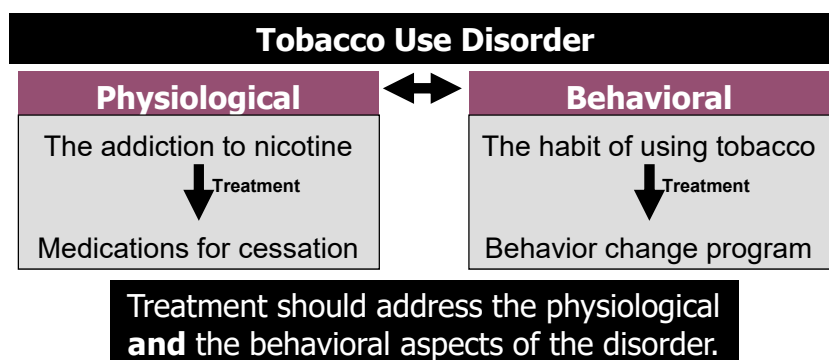
Tobacco Use Disorder



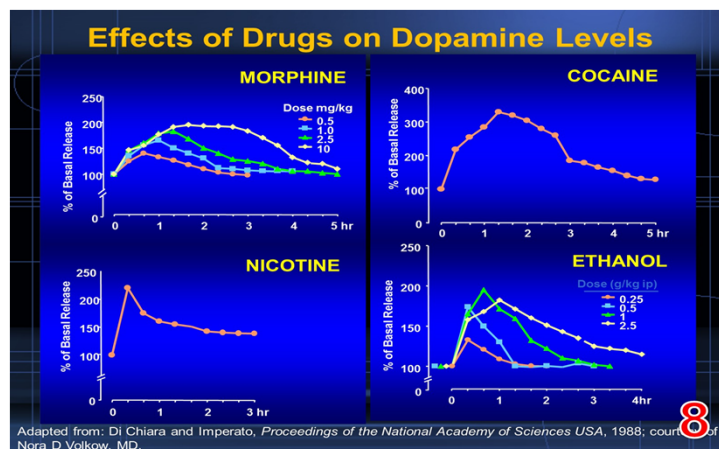
- “Giving up smoking is the easiest thing in the world. I know because I've done it thousands of times.”
- -Mark Twain



Tobacco Use Disorder



Tobacco Use Disorder is a Brain Disease



Screening for Tobacco Use

USPSTF recommendation

The USPSTF recommends that clinicians ask all adults about tobacco use, advise them to stop smoking tobacco, and provide behavioral interventions and U.S. Food and Drug Administration (FDA)-approved pharmacotherapy for cessation to adults who use tobacco.

("A" recommendation)

Ann Intern Med. 2015;163:622-634. doi:10.7326/M15-2023

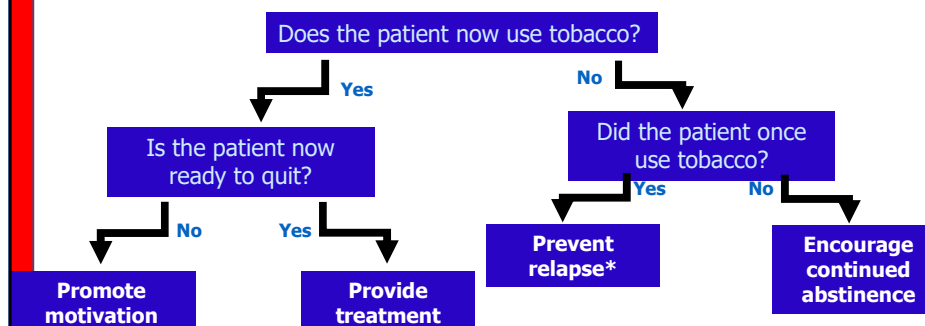
Screening & Approach to Care: The 5 A's



Fiore et al. (2000). *Treating Tobacco Use and Dependence. Clinical Practice Guideline.*
Rockville, MD: USDHHS, PHS.



IS a PATIENT READY to QUIT?



*Relapse prevention interventions are not necessary if patient has not used tobacco for many years and is not at risk for re-initiation.

Fiore et al. (2000). *Treating Tobacco Use and Dependence. Clinical Practice Guideline.*
Rockville, MD: USDHHS, PHS.



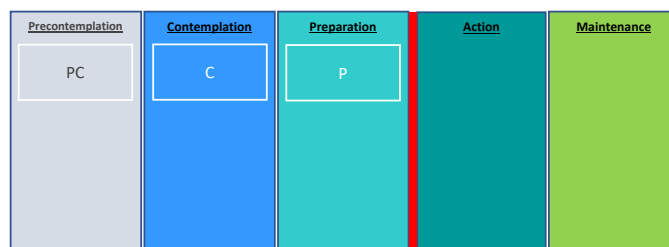
Stages of Change



© 2010 Pro-Change Behavior Systems, Inc.



Pre-Action Stage Progression



Moving forward at least one stage doubles the chance that the patient will quit in the next six months.



Precontemplation



Characteristics of Precontemplation

- Cons > Pros
- Defensive
- Resistant
- Change is experienced as coerced
- Demoralized
- From 30 to 85% of population at risk

What Do You Do with Pre-contemplators?

- **Goal:**
- Engage them in the change process
- **Key Strategy:**
- **Increase the Pros**
 - ☐ Encourage patient to list benefits for them
 - ☐ Point out benefits specific to their co-morbid conditions
 - ☐ Encourage them to look for more benefits



Contemplation

The graphic for the Contemplation stage of change is divided into two main sections. On the left, there is a vertical strip with a colorful, abstract background. It features a silhouette of a person's head and shoulders in the lower half, and a pair of white sneakers in the upper half. The word 'Contemplation' is written in white text over the silhouette. On the right, there is a large green rectangular box with the text 'Getting Ready' in white, bold font at the top, and 'Intend to quit smoking in next 6 months' in white font below it.



Characteristics of Contemplation

- Pros = Cons
- Ambivalent
- Lack commitment
- Lack confidence
- 'Chronic' contemplation
- From 10 to 50% of population at risk



What Do You Do with Contemplators?

- **Goal:**
 - Overcome ambivalence
- **Key Strategy:**
 - **Make the Pros Outweigh the Cons**
 - ☐ Ask participant to name most significant con(s)
 - ☐ Ask participant to shrink cons by:
 - ☐ Comparing them to growing list of pros
 - ☐ Asking how important they are relative to pros
 - ☐ Challenging themselves to counter the cons

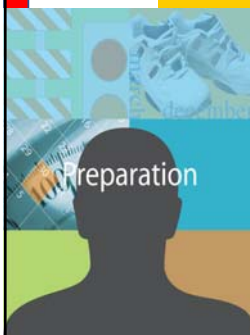


More About Contemplation

- Don't encourage Contemplators to take action – but rather to start to prepare
- Encourage small steps



Preparation



Ready to Take Action

Intend to quit smoking
in next 30 days
Already taking small
steps



Characteristics of Preparation

- Pros > Cons
- Have a plan
- Have taken small steps
- Decisive/committed
- More confident
- “Ideal” patients
- From 5 to 35% of population at risk



Key Behavior Change Strategy for Patients in Preparation

- **Goal:**
- **Help the patient quit successfully**
- **Key Strategy:**
- **Encourage participant to make strong commitment by:**
 - ☐ Setting a specific start date, rather than wait for a magic moment
 - ☐ Sharing commitment with others
 - ☐ Creating a specific “Action Plan”
 - ☐ What method for quitting will they use?
 - ☐ NRT or pharmacological intervention?



Action



**Recently
Changed
Behavior**

Quit smoking less
than 6 months ago



Characteristics of Action

- Working to make change
- May experience strong urge to revert to old behavior
- Recycling to earlier stage is common
- Greatest risk of relapse
 - Inappropriate goals
 - Inadequate preparation
 - Not enough time
 - Give up too easily



Key Behavior Change Strategy for Patients in Action

- **Goal:**

- **Help the patient stay smoke-free**

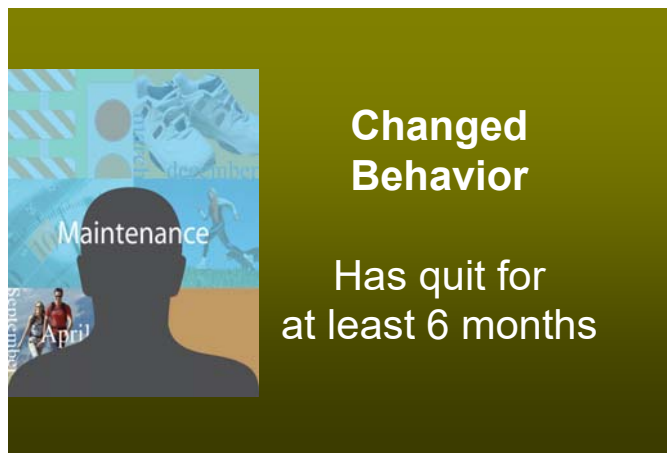
- **Key Strategy:**

- **Manage environment**

- ☐ Identify and avoid people, places, things that tempt them to smoke
- ☐ Ensure all smoking cues are gone
- ☐ Use reminders to stay quit
- ☐ Re-structure environment to make it easier to remain smoke-free



Maintenance



Characteristics of Maintenance

- Higher self-efficacy
- Dynamic, not static
- Improve coping skills
- Life-long struggle



Key Behavior Change Strategy for Patients in Maintenance

- **Goal:**
- **Help the patient stay smoke-free for good**
- **Key Strategy:**
- **Focus on rewards of being a non-smoker**
 - ☐ Underscore other benefits
 - ☐ Money saved
 - ☐ No more going outside to smoke in the cold
 - ☐ More responsible
 - ☐ More independent; able to overcome addiction
 - ☐ Role model for others by staying smoke-free



Relapse Prevention

- Majority of relapses occur at times of distress
- Although distress cannot be prevented, relapse can be
- Prepare patients to cope with distress using a healthy alternative:
 - Exercise
 - Seeking support
 - Relaxation



Recycling: Getting Patients Back on Track

- **Many patients relapse before reaching permanent Maintenance**
 - Approximately 70% of HIV+ smokers have made a previous quit attempt
- **Encourage patients to view setbacks/lapses as an opportunity to learn and move ahead better prepared**
 - Encourage view of setback as temporary
 - Analyze slip and problem-solve about what can be done differently the next time
 - Re-assess current stage



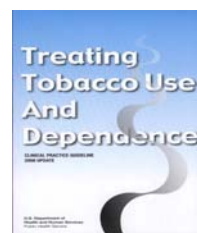
MI: Obstacles to Effective Listening

- Warnings and threats
- Persuading with logic, arguing, lecturing
- Asking questions
- Ordering and directing
- Giving advice, making suggestions, providing solutions



PHARMACOTHERAPY

“Clinicians should encourage **all patients attempting to quit to use effective medications** for tobacco dependence treatment, except where contraindicated or for specific populations* for which there is insufficient evidence of effectiveness.”



** Includes pregnant women, smokeless tobacco users, light smokers, and adolescents.*

Medications significantly improve success rates.

Fiore et al. (2008). *Treating Tobacco Use and Dependence: 2008 Update*.
Clinical Practice Guideline. Rockville, MD: USDHHS. PHS, May 2008.



Tobacco Cessation Pharmacotherapy and HIV

- **59%** of smokers with HIV have **used** smoking cessation **pharmacotherapy** (Pacek et al. 2014)
- While only 4%-7% of people can quit smoking without medicine, **25% of smokers who use medicines can stay smoke free for over 6 months** (American Cancer Society)



Pharmacotherapy is not recommended for:

- Smokeless tobacco users
- < 10 cigarettes per day: though weigh risks versus benefits individually with patients
- Adolescents

Recommended treatment is behavioral counseling.

Fiore et al. (2008). *Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline*. Rockville, MD: USDHHS, PHS, May 2008.



First-Line Pharmacotherapies

- Nicotine Replacement Therapy (NRT)
 - Nicotine Patch
 - Nicotine Gum
 - Nicotine Lozenge
 - Nicotine Inhaler
 - Nicotine Nasal Spray
- Bupropion SR
- Varenicline



Nicotine Patch



Advantages

- Steady-state nicotine levels are achieved throughout the day
- Easy to use and conceal
- Fewer compliance issues are associated with the patch

Disadvantages

- Cannot titrate dose
- Allergic reactions to adhesive may occur
- Patients with underlying dermatologic conditions (e.g., psoriasis, eczema, atopic dermatitis) should not use the patch



Nicotine Gum

Advantages

- May satisfy oral cravings
- May delay weight gain
- Patients can titrate therapy to manage withdrawal symptoms



Disadvantages

- Gum chewing may not be socially acceptable
- May stick to dental work and dentures
- Proper chewing technique (Chew/Park) needed to minimize adverse effects
- Cannot eat or drink 15 minutes before or while using the nicotine gum



Nicotine Lozenge

Advantages

- May satisfy oral cravings
- Easy to use and conceal
- Patients can titrate therapy to manage withdrawal symptoms



Disadvantages

- Gastrointestinal side effects (nausea, hiccups, heartburn) may be bothersome
- Must allow slow dissolution for 20-30 minutes (no chewing)
- Should not eat or drink for 15 minutes before or while using the nicotine lozenge



Nicotine Inhaler

Advantages

- Easily titrate therapy to manage withdrawal symptoms
- Mimics the hand-to-mouth ritual of smoking



Disadvantages

- Initial throat or mouth irritation (in first week)
- Cartridges should not be stored in conditions $>86^{\circ}\text{F}$ or $<59^{\circ}\text{F}$
- Patients with underlying bronchospastic conditions should use with caution



Nicotine Nasal Spray

Advantages

- Easily titrated to rapidly manage withdrawal symptoms



Disadvantages

- Initial nasal or throat irritation can be bothersome (may last up to 3 weeks)
- Higher dependence potential relative to other NRT formulations
- Patients with chronic nasal disorders (e.g., rhinitis, polyps, sinusitis) or severe reactive airway disease should not use



Bupropion

Advantages

- Easy to use
- May be beneficial for patients with coexisting depression
- Initiated before quit date
- No risk of nicotine toxicity if patient continues to smoke

Disadvantages

- Increases seizure risk
- Several contraindications and precautions that may preclude use
- Side effects of insomnia and dry mouth



Varenicline

Advantages

- Easy to use
- Initiate before quit date
- New mechanism of action for persons who previously failed using other medications

Disadvantages

- May induce nausea in up 1/3 of patients (need to titrate)
- Post-marketing surveillance data stimulated FDA warning



Neuropsychiatric Sx and Tobacco Cessation

Hazard ratios of events during 6 months follow-up in the propensity score matched samples

	Bupropion vs NRT (n=12786)	Varenicline vs NRT (n=100326)
Ischaemic heart disease	0.59 (0.37-0.93)	0.86 (0.76-0.97)
Cerebral infarction	0.46 (0.24-0.89)	0.58 (0.47-0.73)
Heart failure	0.44 (0.14-1.44)	0.64 (0.42-0.98)
Peripheral vascular disease	1.62 (0.67-3.92)	0.95 (0.73-1.23)
Arrhythmia	0.43 (0.21-0.91)	0.72 (0.55-0.92)
Depression	0.80 (0.70-0.92)	0.65 (0.61-0.68)
Self-harm	0.90 (0.49-1.68)	0.60 (0.48-0.76)

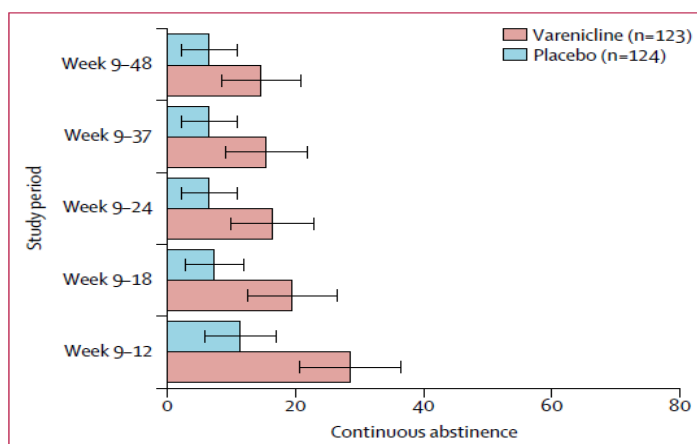
Data in parentheses are 95% CIs. NRT=nicotine replacement treatment.

- No evidence of increased risk of CV or neuropsychiatric events in varenicline or bupropion vs NRT
- Varenicline was effective in psychiatric patients

Kotz et al. The Lancet, [Volume 3, No. 10](#), p761-768, October 2015



Varenicline in PLWH



ANRS 144 Inte-ACTIV Study Group, Lancet 2018.



Combo Therapy: NRT and Oral Tx

Combinations of Varenicline with NRT and Bupropion

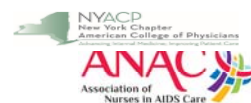
Combination NRT and varenicline was more effective than varenicline alone at 12 weeks, main side effect, rash from patch

(Koegelenberg CF et al [JAMA](#). 2014 Jul;312(2):155-61)

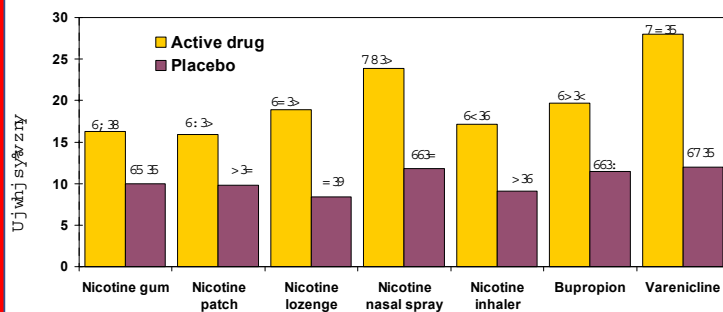
Combination bupropion and varenicline was more effective than varenicline alone and was more effective in men and the highly nicotine dependent

(Combination bupropion SR and varenicline for smoking cessation: a systematic review [Am J Drug Alcohol Abuse](#). 2016 Mar;42(2):129-39.

[Am J Psychiatry](#). 2014 Nov 1;171(11):1199-205)



LONG-TERM (≥ 6 month) QUIT RATES for AVAILABLE TOBACCO CESSATION MEDICATIONS



I fyfifufyji qwr ifmuyf q75 67.3H thmdsj fxfxfj k-xyWj (kxfifij) f75 67.3
H thmdsj fxfxfj k-xyWj (zlmj) xfyf q75 67.3H thmdsj fxfxfj k-xyWj (zlmj) xfyf q75 67.3



Monotherapy

Treatment	Arms (#)	Estimated Odds Ratio (95% CI)	Estimated Abstinence Rates (95% CI)
Placebo	80	1.0	13.8
Nicotine Gum			
• 6-14 wks	15	1.5 (1.2-1.7)	19.0 (16.5-21.9)
• > 14 wks	6	2.2 (1.5-3.2)	26.1 (19.7-33.6)
Nicotine Inhaler	6	2.1 (1.5-2.9)	24.8 (19.1-31.6)
Nicotine Nasal	4	2.3 (1.7-3.0)	26.7 (21.5-32.7)
Nicotine Patch			
• 6-14 wks	32	1.9 (1.7-2.2)	23.4 (21.3-25.8)
• >14 wks	10	1.9 (1.7-2.3)	23.7 (21.0-26.6)
• High-dose (>25mg)	4	2.3 (1.7-3.0)	26.5 (21.3-32.5)
Bupropion SR	26	2.0 (1.8-2.2)	24.2 (22.2-26.4)
Varenicline (2 mg/d)	5	3.1 (2.5-3.8)	33.2 (28.9-37.8)



Combination Pharmacotherapy

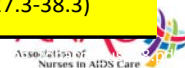
Treatment	Arms (#)	Estimated Odds Ratio (95% CI)	Estimated Abstinence Rates (95% CI)
Nicotine Patch (>14 wk) + ad lib Nicotine Gum/Spray	3	3.6 (2.5-5.2)	36.5 (28.6-45.3)
Nicotine Patch + Nicotine Inhaler	2	2.2 (1.3-3.6)	25.8 (17.4-36.5)
Nicotine Patch + Bupropion SR	3	2.5 (1.9-3.4)	28.9 (23.5-35.1)

- These combinations are considered “effective” according to guidelines



Meta Analysis 2008 (n=18 studies)

Treatment	Arms (#)	Estimated Odds Ratio (95% CI)	Estimated Abstinence Rates (95% CI)
Medication Alone	8	1.0	21.7
Medication and Counseling	39	1.4(1.2-1.6)	27.6 (25.0-30.3)
0-1 Sessions plus Medication	13	1.0	21.8
2-3 Sessions plus Medication	6	1.4 (1.1-1.8)	28.0 (23.0-33.6)
4-8 Sessions plus Medication	19	1.3 (1.1-1.5)	26.9 (24.3-29.7)
> 8 Sessions plus Medication	9	1.7 (1.3-2.2)	32.5 (27.3-38.3)



Smoking Cessation in the WIHS Cohort, 2008-2016

- Factors associated with higher sustained cessation rates:
 - Smoking History
 - Having own residence
 - Self-Help/"Cold Turkey"
 - Nicotine Replacement Therapy

Newman, Sarah, 2017
<https://jscholarship.library.jhu.edu/handle/1774.2/44637>



Nicotine Withdrawal Symptoms

Symptoms	Duration	Prevalence
Urges to smoke	> 2 weeks	70%
Increase appetite	>10 weeks	70%
Poor concentration	< 2 weeks	60%
Depression	< 4 weeks	60%
Restlessness	< 4 weeks	60%
Irritability/aggression	< 4 weeks	50%
Mouth ulcers	> 4 weeks	40%
Night-time awakenings	< 1 week	25%
Constipation	> 4 weeks	17%
Light-headedness	< 48 hours	10%

Hughes et al. *Addiction*. 1994;89:1461-70

NYACP
New York Chapter
American College of Physicians

ANAC
Association of
Nurses in AIDS Care

Strategies to Cope with Nicotine Withdrawal

Symptom	Strategy
Cravings/Urges	<ul style="list-style-type: none"> •Distract self •Postpone cigarette •Breathe deeply •Call supportive person
Irritability	<ul style="list-style-type: none"> •Engage in pleasurable activity •Take hot bath •Breathe deeply
Hunger	<ul style="list-style-type: none"> •Select oral substitute •Drink water or low-calorie drinks

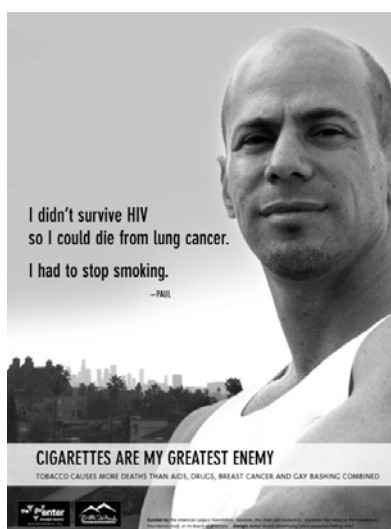
Source: Cofta-Woerpel L, et.al. *Behav Med* 2007;32:135-149.

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Nurses in AIDS Care

Coping with Nicotine Withdrawal

Symptom	Strategy
Difficulty concentrating	<ul style="list-style-type: none"> •Take brisk walk •Simplify schedule •Take a break
Depression	<ul style="list-style-type: none"> •Schedule pleasurable events •Talk to supportive friend/family •Get ample rest •Reward self for working hard to quit
Sleep disturbance	<ul style="list-style-type: none"> •Pace self •Ask for help

Source: Cofta-Woerpel L, et.al. *Behav Med* 2007;32:135-149.



Conclusions

- Tobacco use is a modifiable risk factor which can significantly impact the health of PLWH
- Clinician should assess all patients for tobacco use and assist those who are ready to quit.
- Combination therapy is better than one form of pharmacotherapy



Resources

- [1-800-QUIT-NOW](https://www.1800quitnow.org/)
- [1-855-DÉJELO-YA \(1-855-335-3569\)](https://www.1855dejelelo-ya.org/)
- [BeTobaccoFree.gov](https://www.betobaccofree.gov/)
- [American Cancer Society](https://www.cancer.gov/)
Guide to quitting smoking.
- [American Heart Association](https://www.heart.org/)
Information and support to help you quit smoking.
- [American Lung Association](https://www.lung.org/)
Resources to help smokers figure out their reasons for quitting and then take the big step of quitting for good.



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