

Southwestern National Tuberculosis Center

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# TB and Tobacco: Treating Tobacco Dependence in Special Populations


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## Objectives

- List 3 populations disproportionately affected by tobacco use to aid in providing tobacco cessation to TB patients
- Describe the burden of tobacco use in HIV positive persons and people with diabetes and ways to address it to aid in providing tobacco cessation to TB patients
- Describe the burden of tobacco use among pregnant women and ways to address it to aid in providing tobacco cessation to TB patients.
- Describe the burden of tobacco use among people with psychiatric and other substance use disorders and ways to address it to aid in providing tobacco cessation to TB patients.





# Special Populations

- Hospitalized Smokers
- HIV-Positive Smokers
- Diabetic Smokers
- Homeless Smokers
- Low SES/Limited Formal Education
- Racial and Ethnic Minority Populations
- Mental Illness
- Pregnant Smokers\*
- LGBTQ Smokers\*
- Older Smokers\*
- Children and Adolescents\*
- Light Smokers\*



# Hospitalized Smokers



## Hospitalized Smokers

- Vital that hospitalized patients attempt to quit using tobacco
- Motivated to make a quit attempt
- Great environment to prescribe medication to alleviate withdrawal symptoms
- Patients in long-term care facilities should also receive tobacco dependence interventions

## Treatment

- Determine if the hospitalized patient is ready to quit smoking.
- If patient is ready to quit, counsel using the 5 A's
  - If patient isn't ready to quit, counsel using the 5 R's
- Pharmacotherapy should be used selectively
- Arrange follow-up for tobacco-cessation therapy to ensure abstinence.



## Patient Scenario

- Candace is a 32 y/o female being treated for TB and is in the hospital
- Smokes 1 ppd of cigarettes
- Unsure about how successful she can be quitting
  - Knows she needs to quit
- Been unable to maintain abstinence for more than 2 months
- Has never used NRT during a quit attempt

## What would you first address?

- Willingness to make a quit attempt
- Discuss types of NRT used
- Discuss stressors in life
- Nothing...I am here to treat TB only

## Candace

- Contemplation stage:
  - Highlight ambivalence
  - Elicit self-motivational statements
  - Emphasize discrepancy
  - Explore goals and values
- Because she is in the hospital, offer her a patch if this is an option.
  - It will ease her comfort.



**Diabetes**



## TB and Diabetes

- The risk of developing diabetes is 30-40% higher for active smokers than nonsmokers.
- There is a positive dose-response relationship between the number of cigarettes smoked and the risk of developing diabetes.
- People with diabetes are at a higher risk of progressing from latent to active TB

## Tobacco and Diabetes

- Tobacco use can increase blood sugar levels and lead to insulin resistance
  - The more you smoke, the greater your risk of diabetes
- People who smoke heavily have almost double the risk of developing diabetes compared with people who don't smoke.
- People with diabetes who smoke are more likely than nonsmokers to have trouble with insulin dosing and with controlling their disease



## Tobacco and Diabetes

- If you have diabetes and you smoke, you are more likely to have:
  - Heart disease
  - Kidney disease
  - Poor blood flow in the legs and feet
  - Retinopathy Peripheral neuropathy
- Smokeless tobacco users have a higher incidence of diabetes

## Managing Diabetes and Smoking

- Diabetes treatment and management can include:
  - A healthy diet and physical activity program\*
  - Weight loss (if overweight or obese)\*
  - Medicines to control blood sugar by helping the body use insulin better
  - Patient education to address problem-solving and coping skills needed to help manage diabetes and its complications\*
  - Medicines to control cholesterol and blood pressure
  - Smoking Cessation

## Benefits of Quitting

- Health benefits for people with diabetes who stop smoking begin immediately:
  - Better circulation
  - Less resistance to insulin
  - Decreases the risk of diabetic complications
  - Lower blood pressure and lower cholesterol levels
- Better blood glucose means lower A1C over time
- Better manage TB
- Prevent progression of LTBI to TB disease

## HIV-Positive Smokers





## TB and HIV

- Someone with untreated LTBI and HIV is much more likely to develop TB disease during his or her lifetime than someone without HIV infection
- Among people with latent TB infection, HIV infection is the strongest known risk factor for progressing to TB disease.
- A person who has both HIV infection and TB disease has an AIDS-defining condition



## HIV-Positive Smokers

- More likely to smoke than the general population
- About 1 in 5 U.S. adults smoke
  - Among adults living with HIV, the number of people who smoke is 2 to 3 times greater
- Clinical concern because HIV-positive individuals are living longer





## HIV-Positive Smokers

- Smokers living with HIV have:
  - A poorer response to antiretroviral therapy (ART).
  - Shorter lifespan than people living with HIV who do not smoke
  - Higher mortality rates and lower quality of life than HIV-positive nonsmokers
  - Increased risk of several opportunistic infections and spontaneous pneumothorax compared to HIV-positive nonsmokers



## Smoking Perceptions

- HIV-positive smokers underestimate the effects of smoking on their health
- Some HIV-Positive smokers report that smoking is an effective way to cope with the stress of their illness





## Issues Affecting Smoking Behavior

- Social Conditions
- Polysubstance use
- Psychiatric Comorbidity
- Physical-Mental Distress
- Supporting Beliefs
- Treatment Adherence



## Treating HIV-Positive Smokers

- Quitting smoking can:
  - Lowering your risk of cancer, heart disease, **tuberculosis**, chronic obstructive pulmonary disease (COPD), pneumonia and stroke
  - Reducing HIV-related symptoms
  - Having an improved quality of life





## Patient Scenario

- Lewis is a 42 year old male
- HIV-positive smoker
- Has TB
- Smokes 2 ppd
  - When he is with his partner Neil, the number of cigarettes increases
- Smokes within the 1<sup>st</sup> 5 minutes of waking up
- Lewis has been sober from alcohol for one year
- Still gets tempted to smoke and drink
  - when he's around friends who are drinking/smoking
- He is ready to quit



## Patient Scenario

What would you address first?

- Discuss types of NRT used
- Set a quit date
- Discuss triggers to smoking and alcohol
- Nothing...



## Patient Scenario

What kind of NRT would you start him on?

- 14mg patch
- 21mg patch
- 2mg lozenge or gum
- 21mg patch +4mg lozenge/gum

## Homeless Smokers





## Homeless Smokers

- At least 70% of all homeless individuals smoke
  - 4x that of the general U.S. population
- Tobacco-related chronic diseases are among the leading causes of morbidity and mortality among homeless adults.
  - Cardiovascular disease is the primary killer of homeless and formerly homeless individuals
  - Obstructive lung disease is more than 2x as high in homeless individuals as in the general population
- Homeless individuals suffer higher rates of death due to circulatory and respiratory diseases than domiciled individuals.

## Homelessness and Health

- Homeless individuals are susceptible to a range of health concerns chronic and infectious diseases and common health concerns
  - HIV
  - Diabetes
  - Cancer
  - Hepatitis C
  - Tuberculosis
- Homeless individuals are at least 3x more likely to die prematurely than the general population
- More than 5% of people with TB reported being homeless within the year prior to diagnosis.

## Homelessness and Smoking Behavior

- Majority of smokers began smoking before losing their housing
  - Most exposed at an early age by family members or peer pressure
  - Some began in jail, military or substance abuse treatment program
- Homeless individuals may use alternative smoking behavior
  - Borrowing, sharing, and selling cigarettes
  - Purchasing single cigarettes
  - “Sniping”
  - Switched to cheaper tobacco products

## Challenges

- Shelter policies are often not aimed to reduce tobacco use
- Shelter employees believe that quitting tobacco would increase their clients’ suffering
  - Will buy cigarettes for clients or solicit cigarette donations from tobacco companies
- Many shelters do not place limits on smoking directly outside the building.



## Homelessness and Cessation

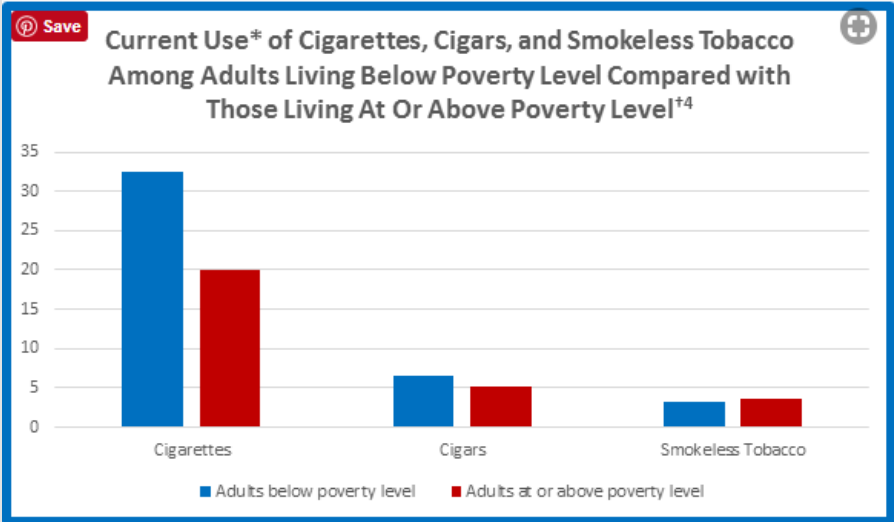
- 20-30% of homeless adults have a serious mental illness
- 30-50% either have substance use or dual disorders
- Majority of homeless smokers in a wide number of studies insist they want to quit and are motivated to quit.
  - Their confidence in their ability to quit is low

## Low SES/Formal Education

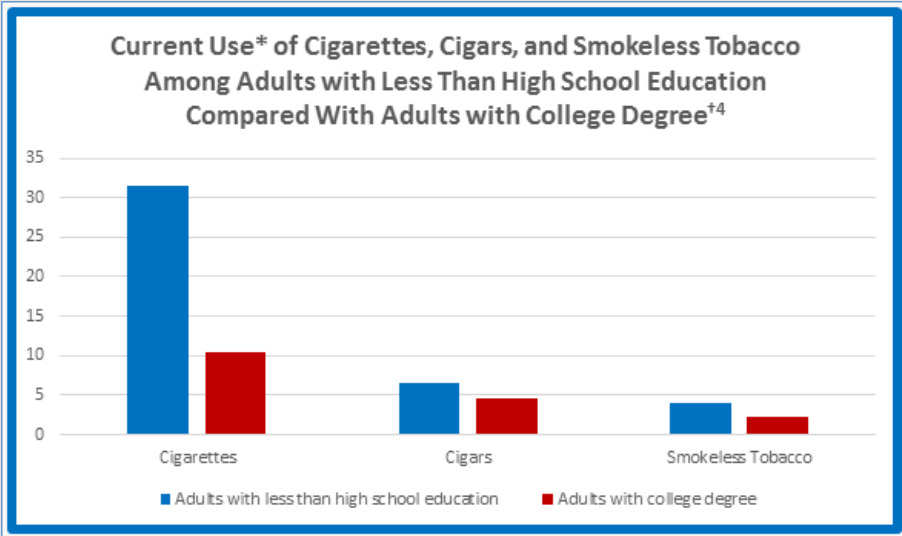


# Low SES/Formal Education

- Tobacco users with low SES or little formal education:
  - Bear a disproportionate burden from tobacco
  - More likely to smoke
  - Have limited access to effective treatment
  - Be misinformed about smoking cessation medications,
  - Less likely to receive cessation assistance
  - More likely to be uninsured or on Medicaid compared to other smokers
- 25% of smokers on Medicaid reported receiving any practical assistance with quitting
  - They express significant interest in quitting and benefit from treatment







## Lung Cancer Risk

- Populations with higher lung cancer risk:
  - Populations in the most socioeconomically deprived groups
  - People with less than a high school education
  - People with family incomes of less than \$12,500
  - People living in rural, deprived areas have 18–20% higher rates of lung cancer than people living in urban areas.
- Lower-income populations have less access to health care

## Smoking Behavior

- People living in poverty smoke cigarettes for a duration of nearly twice as many years as people with a family income of 3x the poverty rate.
- People with a high school education smoke cigarettes for a duration of more than twice as many years as people with at least a bachelor's degree.
- Blue-collar workers are more likely to start smoking cigarettes at a younger age and to smoke more heavily than white-collar workers

## Secondhand Smoke

- Low SES populations are more likely to suffer the harmful health consequences of exposure to secondhand smoke.
- Blue-collar workers are more likely to be exposed to secondhand smoke at work than white-collar workers.
- Service workers, especially bartenders and wait staff, report the lowest rates of workplace smoke-free policies than other occupation categories



## Quit attempts

- 39.0% of adult current daily cigarette smokers with no high school diploma attempt to quit smoking
- Adults who live below the poverty level have less success in quitting (34.5%) than those who live at or above the poverty level (57.5%)
- Adults with less than a high school education have less success in quitting (43.5%) than those with a college education or greater (73.9%).<sup>4</sup>
- Blue-collar and service workers are less likely to quit smoking than white-collar workers



**Racial/Ethnic Minorities**

## Hispanic Americans

- Largest racial/ethnic minority in the nation
- 75% reside in: Arizona, California, Colorado, Florida, Illinois, New Jersey, New Mexico, New York and Texas
- Most Hispanic Americans are of Mexican, Puerto Rican, Cuban or South/Central American ancestry

## Smoking Prevalence: Hispanic Americans

- Smoke at lower rates compared to other groups
- Puerto Rican and Cubans more likely to smoke and smoke more heavily than Mexican and Central Americans
- Those with a high school education or less are more likely to smoke



## Factors Contributing to Disparities

- Increased levels of acculturation
- Cultural attitude of fatalism
- Less likely to view themselves as addicted
- Lower rates of health insurance coverage and access to healthcare

## Cessation Behavior

- 61.5% want to quit
  - More likely to make a quit attempt
- Less likely to seek help to quit
- View cessation in terms of the cultural concept of *voluntad propia* (will power) and in moral “*characterologic*” (related to strength or weakness of character) terms
- Less likely to use pharmacotherapy

## **Treatment**

- Increase education on tobacco addiction and pharmacotherapy
- Linguistically and culturally appropriate resources
- Emphasize maintenance of family health, social support and problem solving skills

## **African Americans**

- Smoke fewer cigarettes per day and tend to begin smoking later in life
  - Smoking-related disease mortality is higher
- Lower quit rates
- Higher incidence of and mortality rate from tobacco-related cardiovascular disease and cancers

## **Factors Contributing to Disparities**

- Higher nicotine dependence and slower metabolism of nicotine
- Preference for menthol cigarettes
- Blue Collar workers
  - Lower incomes
- More likely to have under addressed health concerns
- Target marketing by Tobacco Industry

## **Cessation**

- 70% report wanting to quit smoking and have a greater level of motivation to quit
- More likely to attempt cessation
  - Lower quit rates
- Lower rates of pharmacotherapy use
- Less likely to be advised and counseled to quit smoking by clinicians



## Treatment

- Likely to benefit from treatments aimed at enhancing self-efficacy and increasing social support
- Emphasize relapse prevention and stress reduction techniques
- Incorporate spirituality and use of faith-based programs
- Increase education on adverse health effects and cessation medications

## Asian/Pacific Islander

- 10.9% of Asian Americans reported current use of tobacco in 2013
- 28.1% of Native Hawaiians/Pacific Islanders reported current use of tobacco in 2013
- Asian Americans and Pacific Islanders tend to be light, non-daily smokers
- 63.3% report that they want to quit
  - 39.4% report attempting to quit during the past year



## Mental Illness

- Tobacco contributes to more deaths in people with any mental illness than the primary behavioral health disorder
- Smoking is significantly higher in adults with any mental illness compared to those with no mental illness
  - Smoke higher number of cigarettes per month
  - Less likely to have stopped smoking over their lifetime
  - Experience enhanced nicotine withdrawal

## Systemic Barriers

- Smoking rate among mental health treatment staff is significantly higher than the general population
  - 30-35% staff smoke
- Shared social activity
- Provider belief in myths
- Lack of knowledge about effective treatment
- Tobacco Industry targeting

## Treatment

- Tobacco dependence treatment provided during addictions treatment was associated with a 25% increased likelihood of long-term abstinence from alcohol and illicit drugs
- Tobacco dependency treatment was most cost-effective and morbidity-reducing of 30 preventive services, yet had the lower delivery rate





## **Tobacco Use**

- Studies estimate that 70-80% of all inmates in U.S. prisons and jails smoke or use tobacco products
  - up to 4x the national average
- High prevalence of low SES, substance abuse and mentally ill
- Tobacco related illness among inmates can consume a disproportionate share of correctional facility's health care budget

