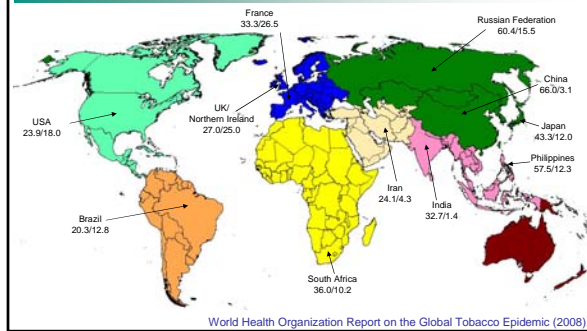


Tobacco Cessation

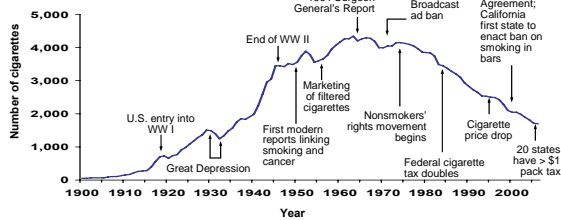
Anne Joseph, MD, MPH
 Professor of Medicine
 Director, Applied Clinical Research Program
 University of Minnesota
 amjoseph@umn.edu

WORLDWIDE ADULT TOBACCO USE PREVALENCE (Men/Women)



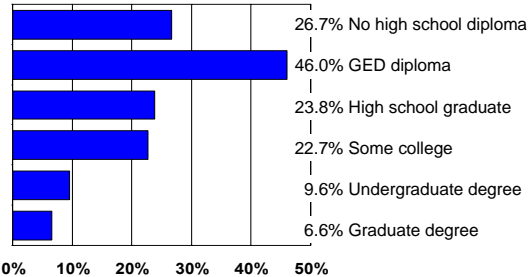
TRENDS in ADULT CIGARETTE CONSUMPTION—U.S., 1900–2006

Annual adult per capita cigarette consumption and major smoking and health events



Centers for Disease Control and Prevention, (1999). *MMWR* 48:986–993.
 Per-capita updates from U.S. Department of Agriculture, provided by the American Cancer Society.

PREVALENCE of ADULT SMOKING, by EDUCATION—U.S., 2006



Centers for Disease Control and Prevention. (2007). *MMWR* 56:1157-1161.

SMOKING AMONG PEOPLE WITH MENTAL ILLNESSES

- 44% of all cigarettes produced in the U.S. are smoked by people with mental illness
- Compared to the general population, smoking is more common among people with mental health diagnoses
 - Bipolar disorder: 70%
 - Major depression or PTSD: 60%
 - Schizophrenia: 90%
- Nearly 50% (200,000) of the 435,000 tobacco-related deaths in the U.S. each year are among people with mental illness

WHY IS SMOKING COMMON AMONG PEOPLE WITH MENTAL ILLNESSES?

- **Culture:** Smoking has been used in psychiatric facilities as a reward; 30-35% of staff themselves smoke, making quitting more challenging
- **Lack of provider attention:** People with mental illnesses are often not advised to quit smoking by their providers
 - One study showed that psychiatrists offered smoking cessation counseling to only 12% of patients who smoked
 - There appears to be little expectation for quitting
 - Clinicians often focus on health problems other than smoking

Many people with mental illnesses who smoke say they have never been advised to quit smoking by a mental health-care professional.

IMPACT of SMOKING on PEOPLE WITH MENTAL ILLNESSES

- On average, persons with mental illnesses die 25 years earlier than the general population
- Many of the years lost are due to smoking-related diseases and other preventable causes of illness and death

National Association of State Mental Health Program Directors (NASMHPD), (2006). Morbidity and mortality in people with serious mental illness.

ALCOHOL DEPENDENCE AND SMOKING PREVALENCE

	Year	Study Pop	Prev
Walton	1972	Alcoholics in detox	97%
Simpson	1978	Drug abusing pts	88%
Istvan & Matarazzo	1984	Review	90%
Kozlowski	1989	Outpt subs misusers	84%
Sees & Clark	1991	SA treatment	74%
Batel	1995	SA treatment	88%

WHY?

- Genetic predisposition?
- Both behaviors:
 - Stress management
 - Risky
- Cross-tolerance between alcohol & nicotine
 - May lead to increased consumption
 - May counteract aversive effects
 - Sedation
 - Intoxication

INTERACTIONS BETWEEN BEHAVIORS

- Urges to smoke and drink correlated
- Cross cues
- Alcoholics report smoking as strategy to cope with urges to drink
- Smoking as a strategy to cope with alcohol effects

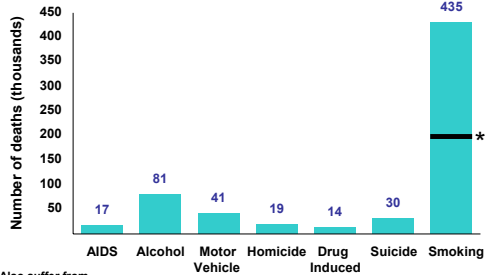
MORBIDITY & MORTALITY

- Rosengren - RR mortality over 12 years
 - Smoker - nonalcoholic 11.0
 - Nonsmoker - alcoholic 17.0
 - Smoker - alcoholic 26.4
- Hurt - 845 alcohol inpatients 1972-1983
 - 214 deaths
 - 51% smoking related
 - 34% alcohol related

TREATMENT ISSUES

- Are alcoholics interested in quitting smoking?
- Are alcoholics more nicotine dependent?
- Are alcoholics less likely to quit than other smokers?
- Alcoholics benefit more or less from drug treatment for nicotine dependence?
- Does SC threaten sobriety?

COMPARATIVE CAUSES of ANNUAL DEATHS in the UNITED STATES



* Also suffer from mental illness and/or substance abuse

Mokdad et al., (2004), JAMA 291:1238-1245.
Flegal et al., (2005), JAMA 293:1861-1867.

WHAT'S IN TOBACCO SMOKE?

An estimated 4,800 compounds are in tobacco smoke, including 11 proven to cause cancer in humans

- Carbon monoxide
- Hydrogen cyanide
- Ammonia
- Benzene
- Formaldehyde
- Nicotine
- Nitrosamines
- Lead
- Cadmium
- Polonium-210



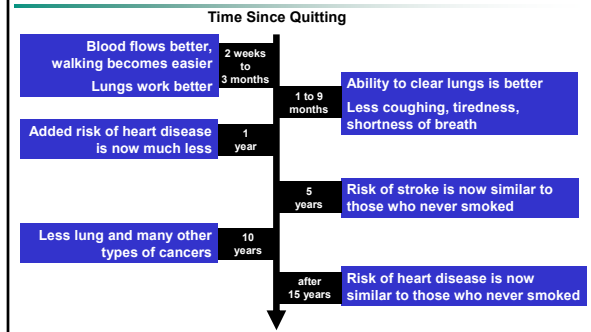
Nicotine does NOT cause the ill health effects of tobacco use.

HEALTH CONSEQUENCES of SMOKING

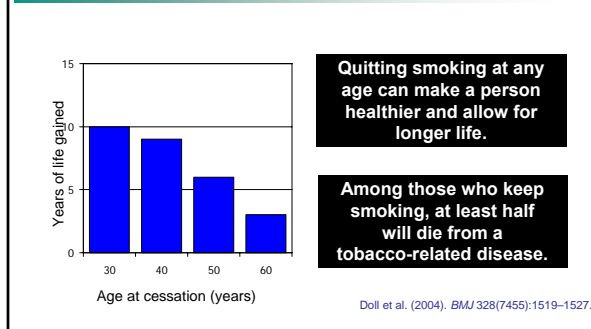
- Cancers in many parts of the body
 - Acute leukemia
 - Bladder
 - Kidney
 - Cervix
 - Oral cavity, esophagus, throat
 - Stomach
 - Lung
 - Pancreas
- Pulmonary diseases
 - Acute (like pneumonia)
 - Chronic (like COPD)
- Cardiovascular diseases
 - Disease related to the heart, arteries, and blood vessels
 - Circulation problems in hands and feet
- Reproductive effects
 - Lower fertility in women
 - Low birth weight
 - Preterm birth
 - Infant mortality
- Other effects:
 - Cataracts (eyes)
 - Osteoporosis (bones)
 - Periodontitis (teeth and gums)
 - Poor surgical outcomes

U.S. Department of Health and Human Services, (2004).
The Health Consequences of Smoking: A Report of the Surgeon General.

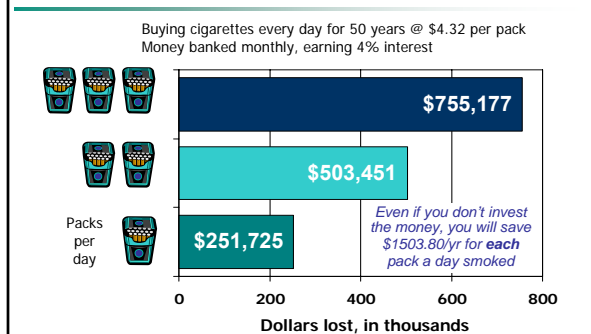
QUITTING SMOKING HAS MANY HEALTH BENEFITS



QUITTING SMOKING LOWERS RISK of DEATH



FINANCIAL IMPACT OF SMOKING: COSTS TO THE INDIVIDUAL



WHY HELP MENTAL HEALTH & SUBSTANCE CONSUMERS QUIT?

- 1 Improve health and overall quality of life
- 2 Increase healthy years of life
- 3 Improve the effect of medications for mental health problems
- 4 Decrease social isolation
- 5 Help to save money by not buying cigarettes
- 6 Quitting smoking is a right and is important for recovery

TOBACCO PRODUCTS THAT ARE SMOKED

- Cigarettes
- Cigars
- Clove cigarettes
- Bidis
- Waterpipes (e.g., hookah)
- Pipes



Image courtesy of the Centers for Disease Control and Prevention / Rick Ward

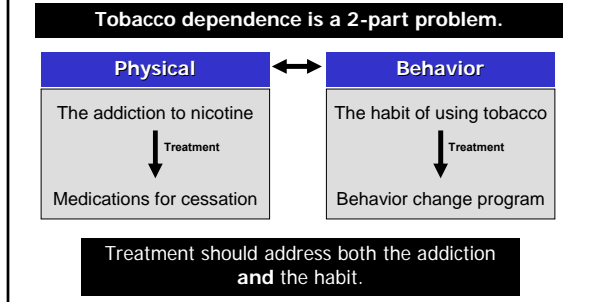
TOBACCO PRODUCTS THAT ARE NOT SMOKED

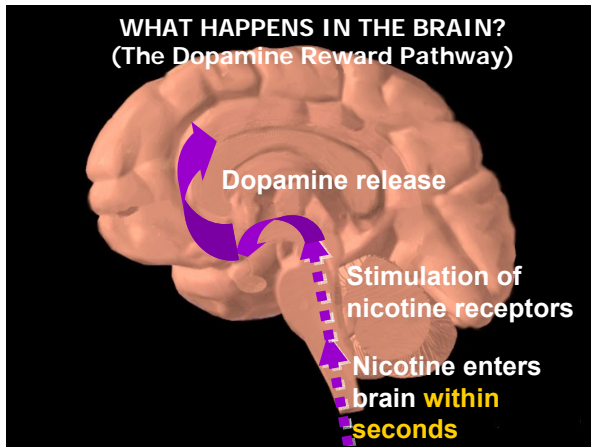
- Smokeless or "spit" tobacco include chewing tobacco and snuff (snus)
- In 2007, about 8.1 million used smokeless tobacco in the U.S.
 - 6.3% of men
 - 0.4% of women
- Most commonly used by:
 - Young adults (18-25 years old)
 - American Indians & Alaskan Natives
 - Residents of the southern U.S. and rural areas



The Copenhagen and Skoal logos are registered trademarks of U.S. Smokeless Tobacco Company, and Red Man is a registered trademark of Swedish Match.

TOBACCO DEPENDENCE HAS TWO PARTS



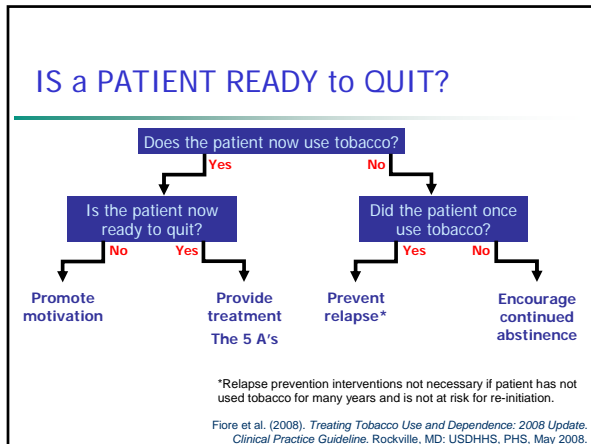


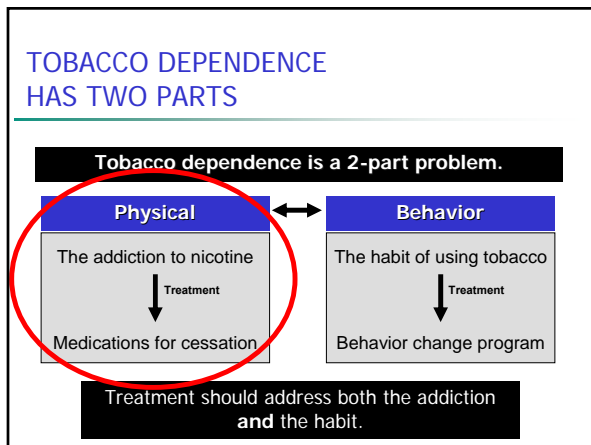
NICOTINE PHARMACODYNAMICS: WITHDRAWAL EFFECTS

- Irritability/frustration/anger
- Anxiety
- Difficulty concentrating
- Restlessness/impatience
- Depressed mood/depression
- Insomnia
- Impaired performance
- Increased appetite/weight gain
- Cravings

Most symptoms manifest within the first 1–2 days, peak within the first week, and subside within 2–4 weeks.

HANDOUT
Hughes. (2007). *Nicotine Tob Res* 9:315–327.





- ### METHODS for QUITTING
- Nonpharmacologic
 - Counseling and other non-drug approaches
 - Pharmacologic
 - FDA-approved medications
- Counseling and medications are both effective, but the combination of counseling and medication is more effective than either alone.**
- Fiore et al. (2008). *Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline*. Rockville, MD: USDHHS, PHS, May 2008.

WHY USE a MEDICATION FOR QUITTING?

- Medications help by making people more comfortable while quitting
 - Reduces withdrawal symptoms
- Allows consumers to focus on changing their behavior
- The medications do not have the harmful ingredients found in cigarettes
 - Nicotine replacement therapy (NRT) products provide a clean form of nicotine
 - Other medications that do not include nicotine are available with a doctor's prescription

Medications improve chances of quitting

MEDICATIONS FOR SMOKING CESSATION

Nicotine gum

- Nicorette (OTC)
- Generic nicotine gum (OTC)

Nicotine lozenge

- Commit (OTC)
- Generic nicotine lozenge (OTC)

Nicotine patch

- Nicoderm CQ (OTC)
- Generic nicotine patches (OTC, Rx)

Nicotine nasal spray

- Nicotrol NS (Rx)

Nicotine inhaler

- Nicotrol (Rx)

Bupropion SR tablets

- Zyban (Rx)
- Generic (Rx)

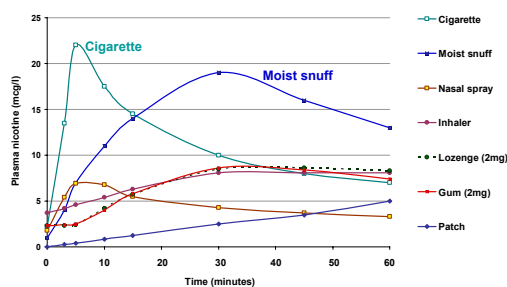
Varenicline tablets

- Chantix (Rx)

OTC = over-the-counter / no prescription needed

These are the only medications approved by the Food and Drug Administration (FDA) for smoking cessation.

PLASMA NICOTINE CONCENTRATIONS for NICOTINE-CONTAINING PRODUCTS



NICOTINE GUM

- Sugar-free chewing gum
- Absorbed through the lining of the mouth
- Available in two strengths (2mg and 4mg)
- Available flavors are:
 - Original, cinnamon, fruit, mint (various), and orange
- Sold without a prescription as Nicorette or as a generic
- Some find the gum difficult to chew
- May not be a good choice for people with jaw problems, braces, retainers, or significant dental work



Nicorette gum (shown here) is manufactured by GlaxoSmithKline.

NICOTINE LOZENGE

- Absorbed through the lining of the mouth
- Available OTC in two strengths
 - 2mg and 4mg
- Available sugar-free flavors include:
 - Mint
 - Cappuccino
 - Cherry



Commif lozenges (shown here) are manufactured by GlaxoSmithKline.

NICOTINE PATCH

- Nicotine is absorbed through the skin
- Sold without a prescription as Nicoderm CQ or as a generic
- Wear on upper part of the body, in a place with little hair such as the upper back or outside of the arm
- Do not cut in half
- Apply a new patch every 24 hours



Nicoderm CQ patches (shown here) are manufactured by GlaxoSmithKline.

NICOTINE NASAL SPRAY

- About 100 doses per bottle
- Quickly absorbed through the lining of the nose
- Sold with a prescription as Nicotrol NS



Nicotrol NS (shown here) is manufactured by Pfizer.

NICOTINE INHALER

- Nicotine inhalation system:
 - Mouthpiece
 - Cartridge
- Absorbed through the lining of the mouth
- Allows for similar hand-to-mouth ritual of smoking
- Sold with a prescription as Nicotrol Inhaler



Nicotrol Inhaler (shown here) is manufactured by Pfizer.

BUPROPION SR TABLETS

- Does not contain nicotine
- Tablet that is swallowed whole, and the medication is released over time
- Same medication as Wellbutrin, which is used to treat depression
- Sold with a prescription as Zyban or generic



Zyban (shown here) is manufactured by GlaxoSmithKline.

BUPROPION: CONTRAINDICATIONS

- Patients with a seizure disorder
- Patients taking
 - Wellbutrin, Wellbutrin SR, Wellbutrin XL
 - MAO inhibitors in preceding 14 days
- Patients with a current or prior diagnosis of anorexia or bulimia nervosa
- Patients undergoing abrupt discontinuation of alcohol or sedatives (including benzodiazepines)

BUPROPION: WARNINGS and PRECAUTIONS

Bupropion should be used with caution in the following populations:

- Patients with a history of seizure
- Patients with a history of cranial trauma
- Patients taking medications that lower the seizure threshold (antipsychotics, antidepressants, theophylline, systemic steroids)
- Patients with severe hepatic cirrhosis
- Patients with depressive or psychiatric disorders

VARENICLINE

- Does not contain nicotine
- Tablet that is swallowed whole
- Sold with a prescription only as Chantix
- People who take Chantix should be in regular contact with their doctor



NOTE: Some people who used varenicline have reported experiencing changes in behavior, agitation, depressed mood, suicidal thoughts or actions. Peers should talk to their doctor before taking this medication.

Chantix (shown here) is manufactured by Pfizer.

VARENICLINE: MECHANISM of ACTION

- Binds with high affinity and selectivity at $\alpha_4\beta_2$ neuronal nicotinic acetylcholine receptors
 - Stimulates low-level agonist activity
 - Competitively inhibits binding of nicotine
- Clinical effects
 - ↓ symptoms of nicotine withdrawal
 - Blocks dopaminergic stimulation responsible for reinforcement & reward associated with smoking

VARENICLINE: WARNING




- In 2008, Pfizer added a warning label advising patients and caregivers:

Patients should stop taking varenicline and contact their healthcare provider immediately if agitation, depressed mood, or changes in behavior that are not typical for them are observed, or if the patient develops suicidal ideation or suicidal thoughts.



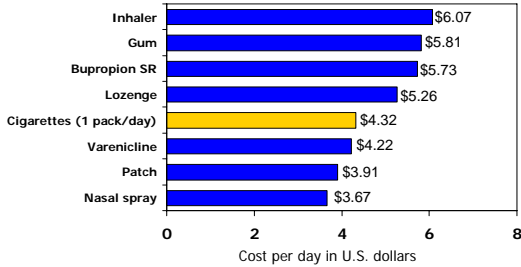
VARENICLINE: DOSING

Patients should begin therapy 1 week PRIOR to their quit date. The dose is gradually increased to minimize treatment-related nausea and insomnia.

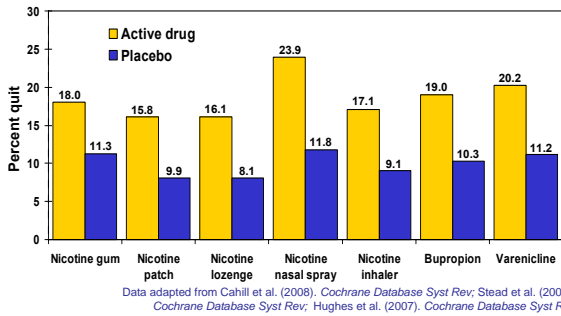
	Treatment Day	Dose
Initial dose titration	Day 1 to day 3 	0.5 mg qd
	Day 4 to day 7 	0.5 mg bid
	Day 8 to end of treatment* 	1 mg bid

* Up to 12 weeks

DAILY COSTS of TREATMENT versus SMOKING CIGARETTES



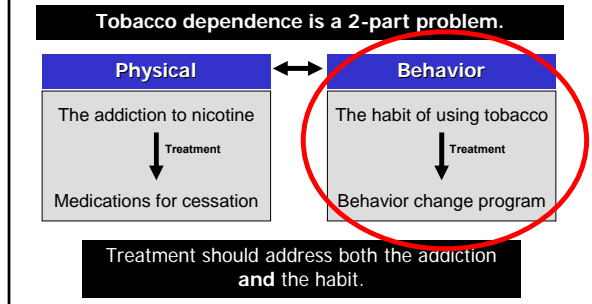
LONG-TERM (≥ 6 month) QUIT RATES for AVAILABLE CESSATION MEDICATIONS



COUNSELING and SUPPORT

- People who get help and social support are more likely to be successful in quitting smoking
- Most people do better if they get help to PREPARE and PLAN for their quit attempt
- Most people do better if they understand the need to change behavior too
 - Ultimately, it is the person's choice to quit

TOBACCO DEPENDENCE HAS TWO PARTS



THE CHALLENGES of QUITTING

- People smoke in many different situations:
 - When drinking coffee
 - While driving in the car
 - When bored
 - While stressed
 - While at a bar
 - After meals
 - During breaks at work
 - While on the telephone
 - When spending time with family or friends who use tobacco
 - While drinking alcohol or using drugs
- Quitting requires coping – changing how you think and what you do – in these situations
- Quitting requires motivation – thinking about a more positive life outlook and other meaningful reasons to quit
- Talking with someone who knows about quitting can help people learn to **cope** and get **motivated** to quit without having a cigarette or using tobacco

BARRIERS to TOBACCO INTERVENTIONS: Patient/Consumer Factors

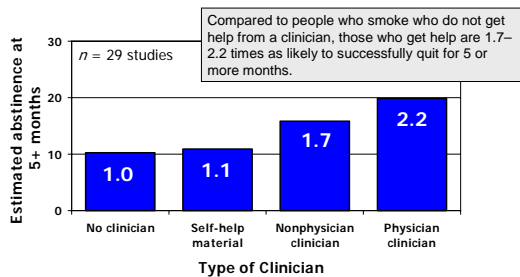
- Expectation of failure
- Self-stigma
- Lack of recovery
- Fear of weight gain
- Fear of withdrawal symptoms
- Boredom
- Knowledge
- Coping with tension and anxiety
- Daily routines
- Smoking as a social activity

RELAPSE

- **Relapse** (starting smoking again when you're trying to quit) can be another barrier.
 - For many people, quitting takes more than one try, sometimes 5 or more times
 - Many need to practice quitting first, and people who are successful have usually experienced relapse
 - Discussion: What can be learned from past quit attempts?

Depression and Bipolar Support Alliance, Online Survey, (2008).
Funded by the Smoking Cessation Leadership Center. Draft report.

ADVICE CAN IMPROVE CHANCES OF QUITTING



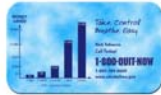
Fiore et al. (2008). *Treating Tobacco Use and Dependence: 2008 Update*.
Rockville, MD: USDHHS, PHS.

Step 1, 2, 3

- **ASK** all clients about tobacco use
 - "Do you, or does anyone in your household, ever smoke or use any type of tobacco?"
- **ADVISE** people who use tobacco to quit (use a clear, strong, and personalized message)
 - "Quitting smoking is very important for improving your overall health. I can refer you to people who can help you."
- **REFER** people who use tobacco to other resources
 - A doctor, nurse, pharmacist, or other clinician, for more counseling, toll-free telephone quitline: [1-800-QUIT-NOW](tel:1-800-QUIT-NOW)

REFER to a TOLL-FREE TELEPHONE QUITLINE

- Referring to a tobacco quitline is simple
 - People who call the quitline receive one-on-one advice from trained counselors
 - Follow-up counseling is provided by the quitline
 - **Quitlines are free, and they work!**



Sample cards, for distribution to peers.

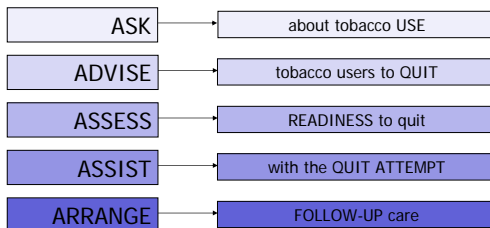
1-800-QUIT-NOW

MORE OPTIONS FOR REFERRAL/INFORMATION

- Contact local resources
 - American Lung Association has local chapters www.lungusa.org
 - Nicotine Anonymous www.nicotine-anonymous.org
- Talk with a provider about local wellness meetings on tobacco cessation at a nearby hospital (i.e. Kaiser)
- Telephone support provided by the makers of the medications for quitting
 - See the box of your medication for phone numbers
- Go to www.becomeanex.org or www.smokefree.gov

APPROACH #2: The 5 A'S

Using intensive intervention...



TALK to PROGRAM STAFF ABOUT the IMPORTANCE of SMOKING CESSATION

- Get buy-in from providers and administrators
- Staff cessation
- Promote tobacco-free facility and campus
 - Policies are important for supporting an environment for quitting
 - See NASMHPD's "Tobacco-Free Living in Psychiatric Settings: A Best Practices Toolkit Promoting Wellness and Recovery"

WHAT IF A CLIENT ASKS YOU ABOUT YOUR TOBACCO USE?

- **If you have never smoked**, you may not be able to understand how hard it is to quit
- **If you currently smoke or have quit**, you probably have greater insight into what it is like to be addicted to tobacco
- It is important to remember that **each person's experience is different** but you may be able to provide some useful insights from your experiences that may help you in providing support

SUMMARY

- Tobacco use is prevalent in mental health and alcohol/drug dependent patients
- There is interest in quitting
- Use combined treatment
 - Behavioral
 - Pharmacological

Thanks!

- Thanks to Rx for Change (University of California, San Francisco, Schools of Pharmacy & Medicine) for many slides!
