



금연 상담은 어떻게 할 것인가

이화여자 의과대학 호흡기내과

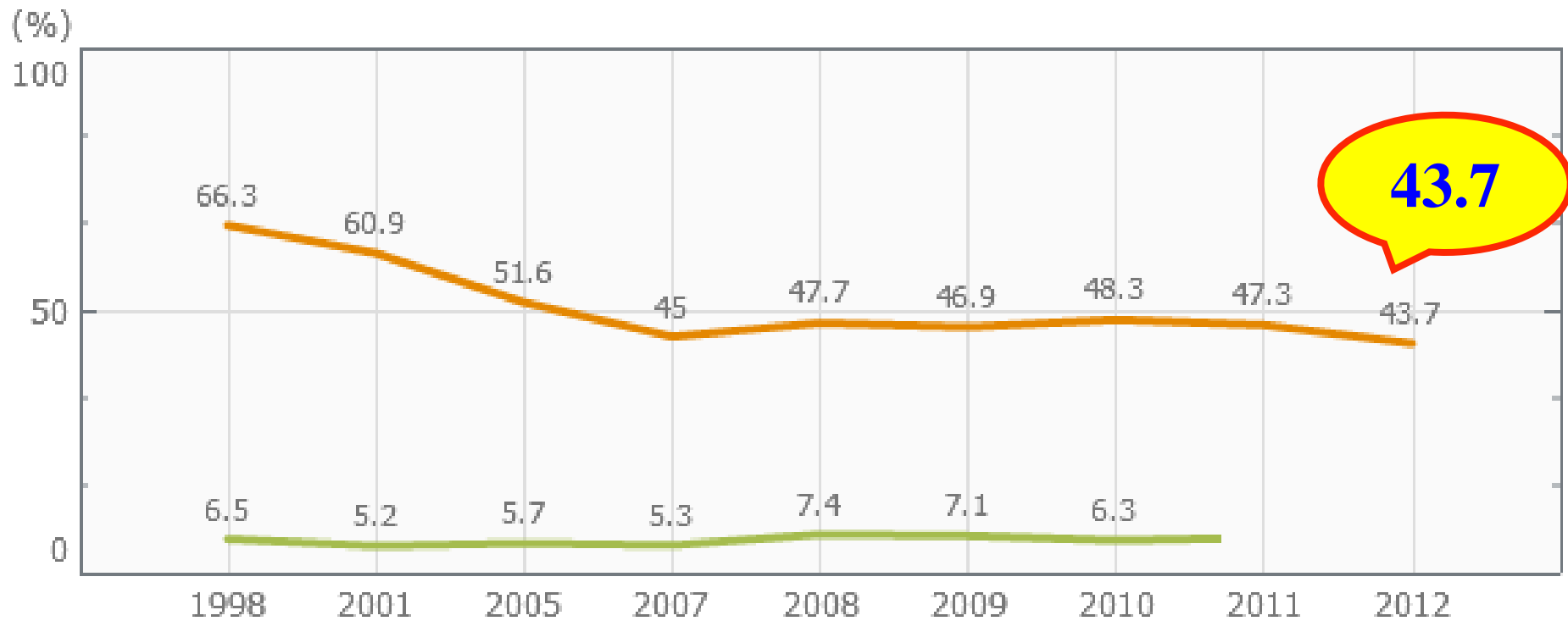
천은미

담배의 유래와 국내 도입



마야인들이 10세기경 사용하던 도자기에 그려진 시가를 통해 통연하는 장면 (역사코슬트)

국내 남. 녀 흡연율 연도별 변화



출처: 2012 국민건강통계, 보건복지부, 질병관리본부

Behaviors of smokers for quitting smoking

- 80% of smokers see a physician each year.
- 70% of smokers want to quit
- 2/3 ~ 3/4 of smokers **do not use** counseling or medication



Shiffman et al. Am J of Preventive medicine 2008;34:102

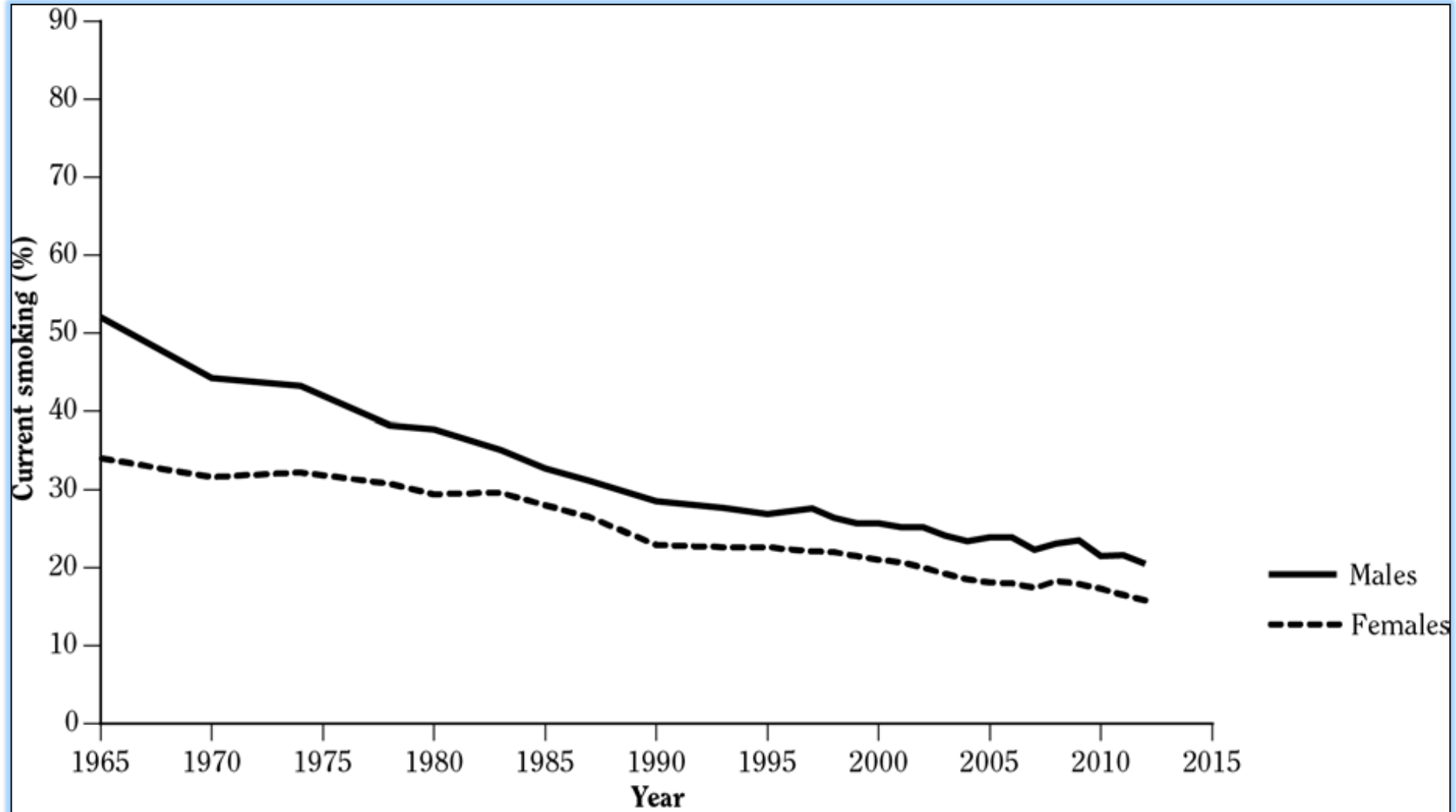
Physician' practices for smokers to quit smoking

- ▶ Majority of French physicians were concerned about smoking cessation, but not confident to help smokers to quit. *Slama et al Addiction 1999*
- ▶ 1% of physicians learnt about smoking cessation from school training.
- ▶ $\frac{3}{4}$ Chinese physicians received smoking knowledge through newspaper and TV. *Abu SA. Et al/ Tobacco control 2103;22*
- ▶ A reduction in physician smoking precedes decreases in population
- ▶ Prevalence of smoking among Korean pulmonologists *(2008 결핵 및호흡기학회, 금연 연구회)*
- *Nonsmokers 138(85.7%) / Current smokers 23(14.3%)*

50 Years of Progress : A Report of the Surgeon General, 2014

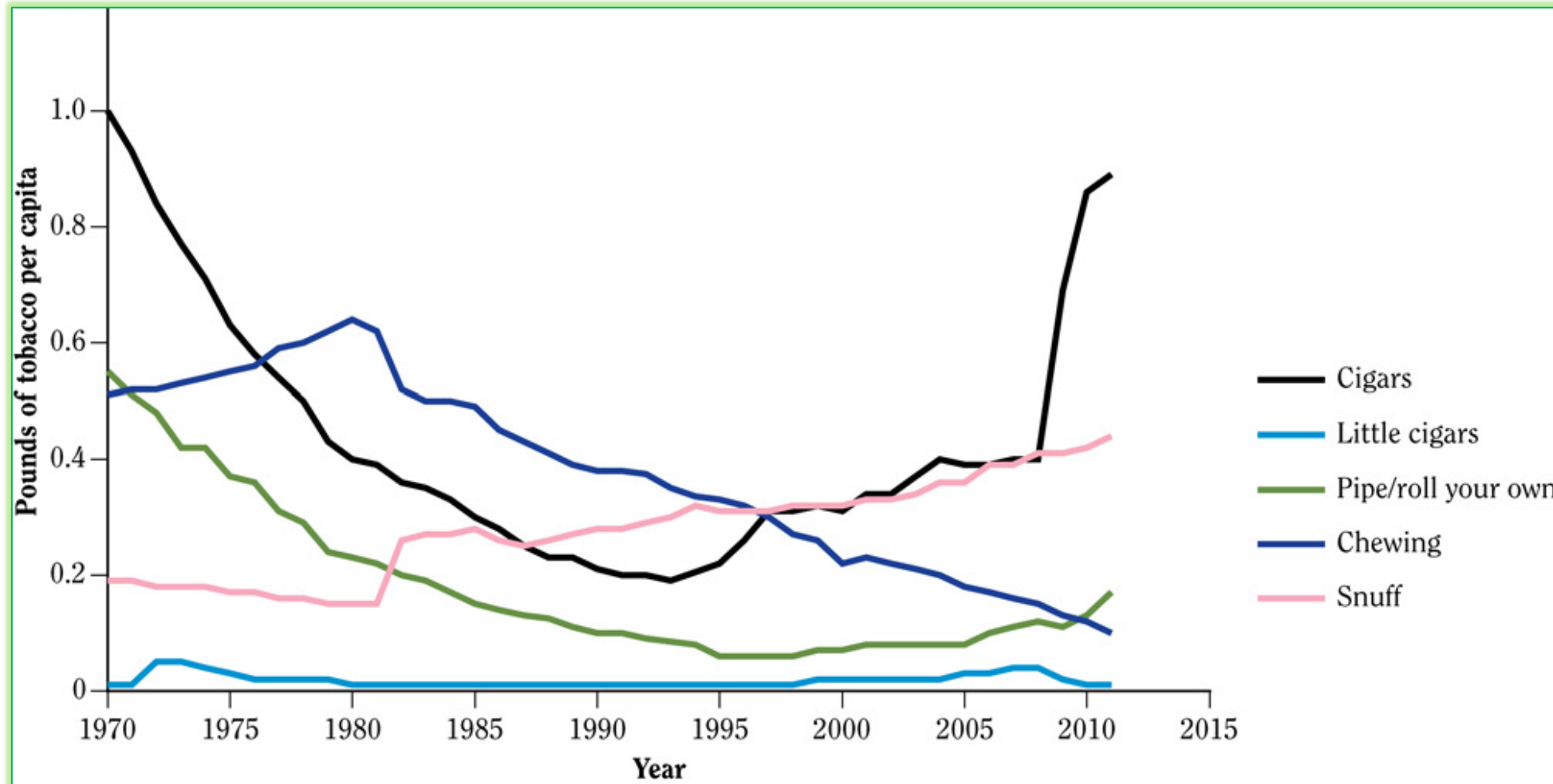
- ⊕ On 1964, Luther L. Terry, Surgeon General of US, released *Smoking and Health: Report of the Advisory Committee of the Surgeon General of the Public Health Service*
- ⊕ The prevalence of smoking adults has declined from 42% in 1965 to 18% in 2012
releasing after the report of Surgeon General

Trends in prevalence (%) of current cigarette smoking among adults, 18 years of age and older, by gender; (NHIS) 1965–2012; United States



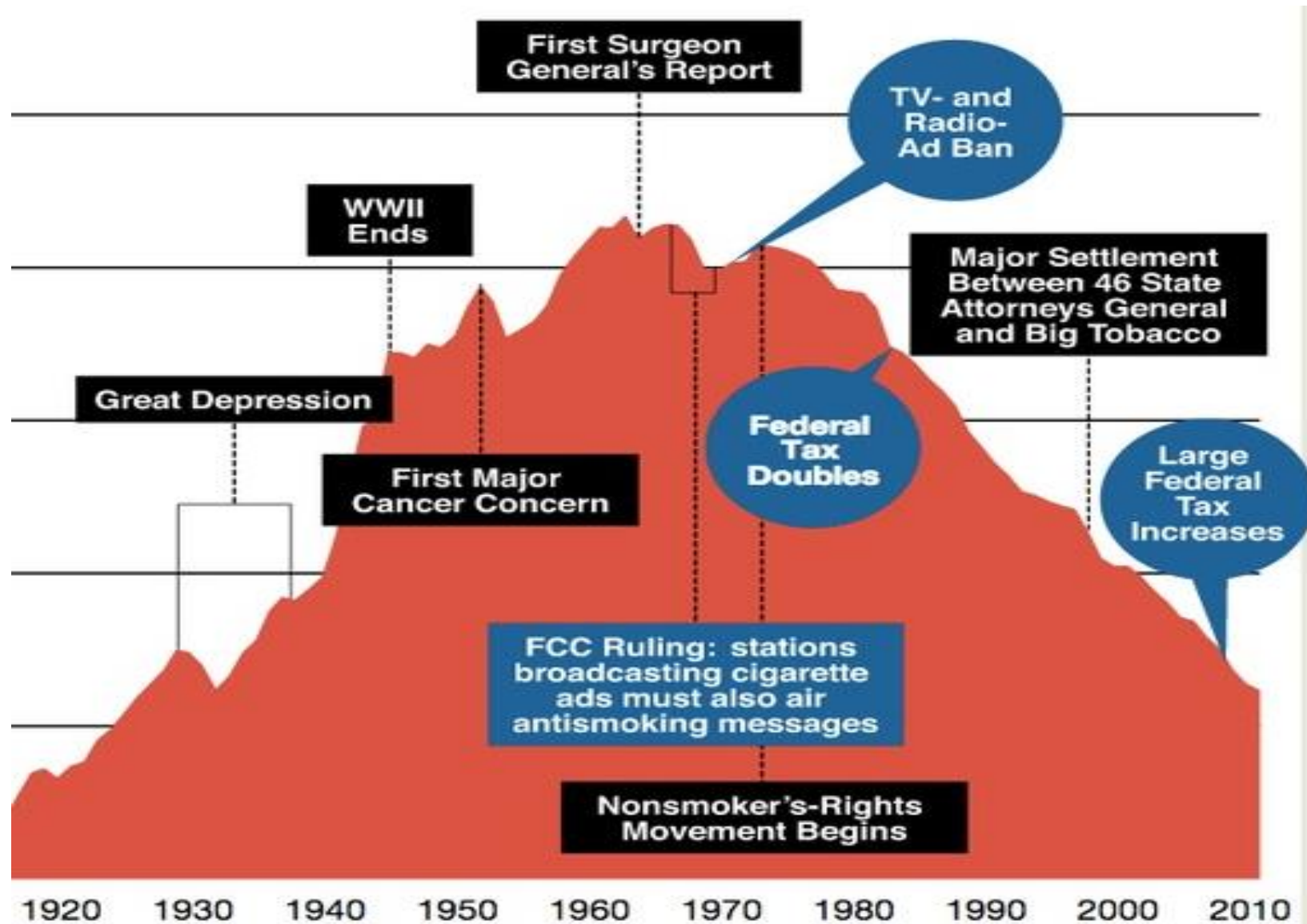
Source: 1965–2012 NHIS, National Center for Health Statistics, public use data tapes

Consumption of non-cigarette products in the US, 1970–2011 *Source*



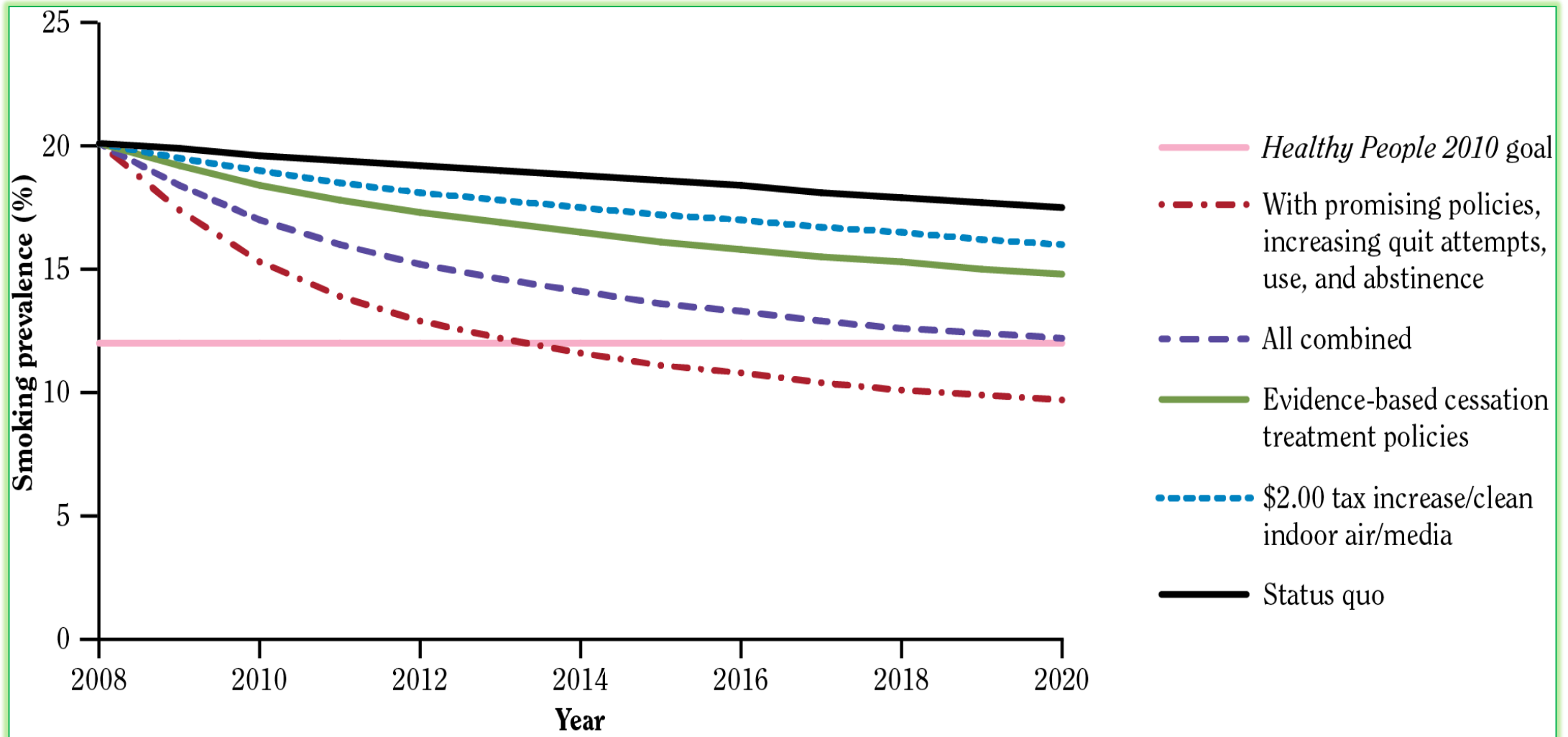
2011Source: U.S. Department of Treasury 2012.

Prevalence of smoking in USA during 50 years



- ① Increases in the prices of tobacco products,
- ② Smoke free indoor air policies are effective
- ③ Mass media campaigns, community programs,
- ④ Tobacco cessation treatments are effective

Effects of a 100% reduction in the quit attempt rate, treatment use, and treatment effectiveness on smoking prevalence



Down from Levy et al 2010

Current smokers who attempted to quit smoking or had an interest in quitting

Characteristic	Attempted % (95% CI)	Had an interest % (95% CI)
Male	43.1 (40.6–45.6)	67.8 (65.2–70.4)
Female	42.2 (39.7–44.7)	70.1 (67.6–72.7)
Education		
High school diploma	40.0 (36.9–43.1)	66.5 (63.4–69.6)
Some college	44.3 (41.3–47.2)	72.1 (69.0–75.1)
≥College	49.0 (43.3–54.6)	72.5 (67.4–77.6)
Age group (years)		
18–24	48.5 (41.9–55.1)	65.8 (59.8–71.8)
25–44	46.8 (44.0–49.6)	74.3 (71.7–76.9)
45–64	38.8 (36.2–41.4)	68.3 (65.6–71.0)
≥65	34.6 (29.6–39.7)	52.7 (46.7–58.6)
Poverty status		
At or above poverty level	43.8 (41.6–46.0)	69.9 (67.7–72.1)
Below poverty level	40.4 (36.9–43.9)	66.6 (62.8–70.4)
Unknown	39.1 (32.7–45.5)	66.1 (60.0–72.2)

Source: 2010 and 2012 NHIS: National Center for Health Statistics, public use data tapes.

CAGE Questionnaire - addictive disorder

- ① Have you ever felt a need to **Cut down** or control your smoking?
- ② Do you get **Annoyed** or angry with people who criticize your smoking?
- ③ Have you felt **Guilty** about your smoking ?
- ④ Do you smoke within half an hour of waking up (**Eye**-opener)?

* **TWO YES:** A POSITIVE SCREENING TEST

Lairson et al. J drug edu. 1992;22:337

Cigarette dependence questionnaires

1) **The Cigarette Dependence Scale (CDS)**

● 2) **The Fagerstrom Test of Nicotine Dependence (FTND)**

● 3) **The Heaviness of Smoking Index (HSI)**

(cigarettes/day & time to first cigarette).

4) **The Nicotine Dependence Syndrome Scale (NDSS)**

Delphine et al. Drug and alcohol dependence, 2000

Treating Tobacco Use and Dependence: 2008 Update

- ① Consortium of (AHRQ); (CDC); (NCI); (NHLBI); (NIDA); American Legacy Foundation; (RWJF); (UW-CTRI).
- ② Reflects the distillation of a literature more than 8,700 articles
- ③ **Strategies and recommendations** designed to assist clinicians
- ④ Systematic review and meta-analysis of 11 specific topics

Ten Key Guideline Recommendations : Treating Tobacco Use and Dependence: 2008

- ① Tobacco dependence is a **chronic disease** that requires repeated **intervention**
- ② Identify and **document** tobacco **use status**
- ③ Tobacco **dependence treatments** are **effective** across a **broad range of populations**
- ④ Brief tobacco dependence treatment is effective
- ⑤ Individual, group, and telephone **counseling** are effective, increases with treatment intensity
- ⑥ **First-line medications** (5 nicotine & 2 non-nicotine) increase long-term smoking abstinence rates
- ⑦ The **combination** of **counseling and medication** is more effective than either alone.
- ⑧ Telephone quitline counseling is effective with **diverse** populations and has broad reach
- ⑨ Unwilling to make a quit attempt, clinicians should use the **motivational** treatments
- ⑩ Tobacco **dependence treatments** are both **clinically effective and highly cost-effective**

Recommendations of counselling

Treating Tobacco Use and Dependence: 2008 Update

- ① All patients should be asked if they use tobacco
- ② Tobacco dependence treatment should be delivered
- ③ All *physicians* should advise patients who smokes to quit
- ④ Minimal interventions less than 3 min increase tobacco abstinence rates

- ⑥ Strong **dose-response** between length of person-to-person contact
- ⑦ Four or **more sessions** appears effective in increasing abstinence rates
- ⑧ Proactive telephone counseling, group counseling, and individual counseling formats are effective.

Physiological Monitoring/Biological Marker To Motivate Smokers To Quit

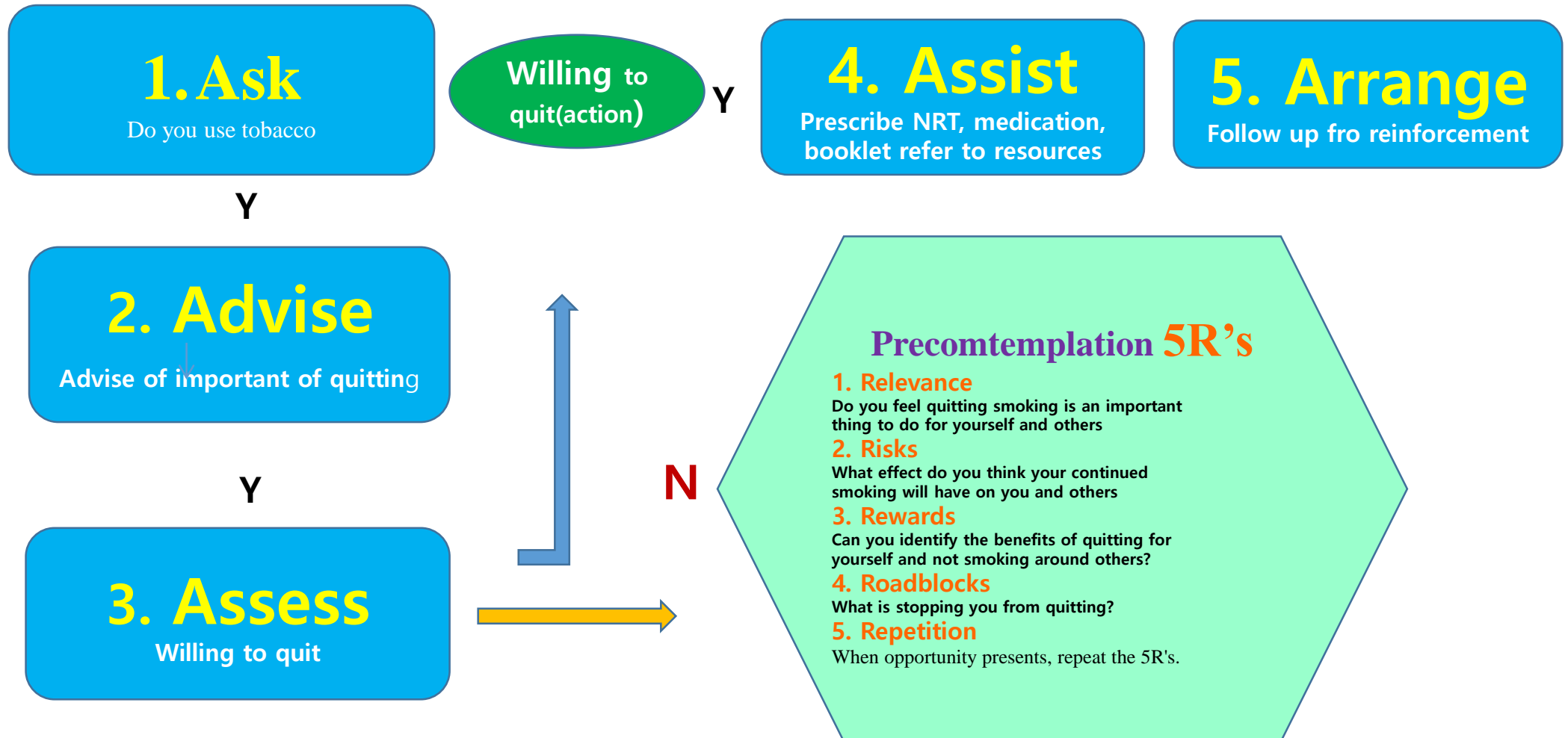
- **CO level** and **genetic** susceptibility to cancer was associated with a greater quit attempts 1 year later
- **Low dose chest CT** increased tobacco abstinence rate.

Brief strategies **Willing** to Quit Tobacco Use

The 5A's

Ask, Advise, Assess, Assist, Arrange

5A's Brief tobacco interventions



Effective strategies of smoking cessation counselling

- **> 10 minutes** advice yields higher abstinence rates
- **Brief advice** to large population is more effective
- **> 6 months** of F/U of quitting clinic is necessary
- **Coordinated** interventions are required
- **Counselling and medications** are used together

Fiore MC et al. Treating Tobacco Use and Dependence: 2008 Update.

Effect of counselling contact intensity

Contact	O.R.	Cessation%
None	1.0	10.9
Minimal	1.3	13.4
Brief	1.6	16.0
Counseling	2.3	22.1

minimal ≤ 3mins; *brief* > 3 to ≤ 10mins; *counseling* > 10mins.

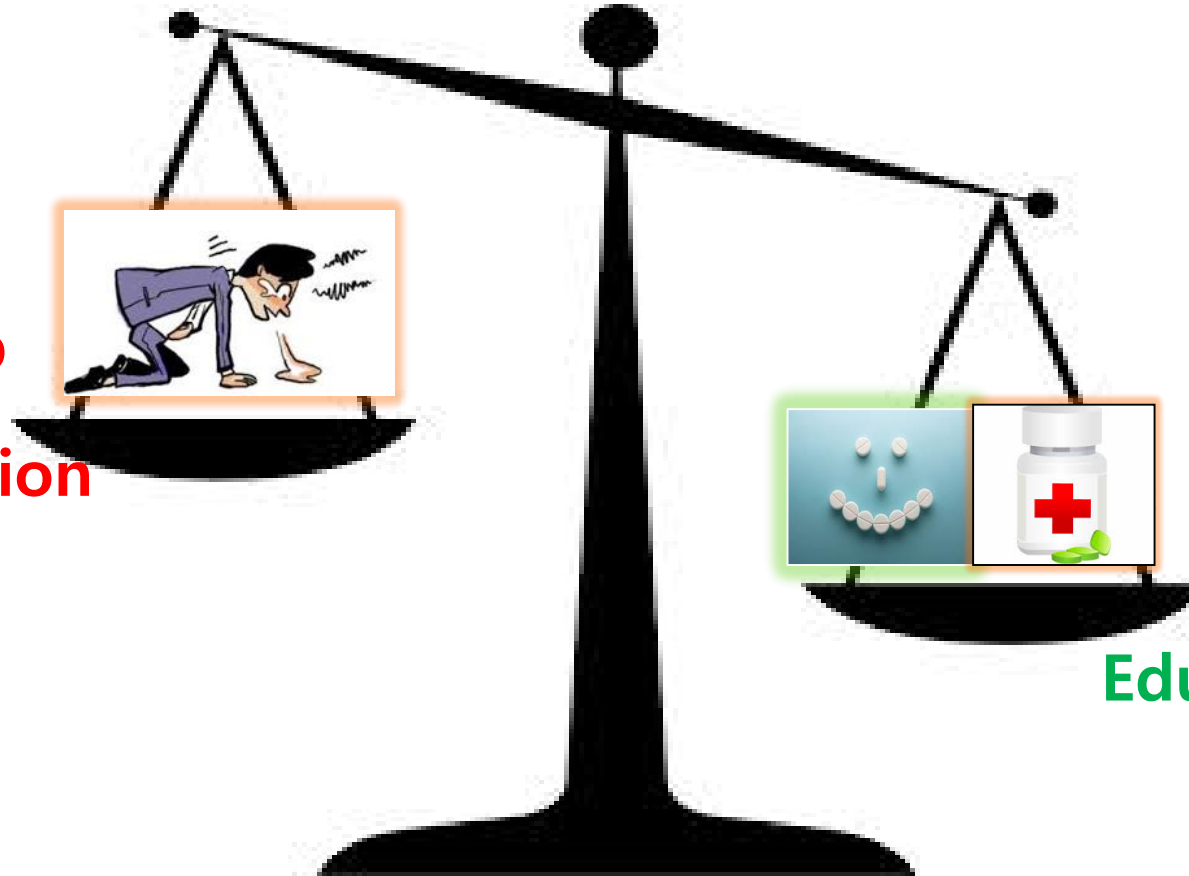
A. Nonpharmacologic interventions

	Cochrane database		2008 PHS guideline	
	RR(mini/usual)		OR(mini/usual)	
Smoking cessation counseling				
Individual	1.39 (1.24–1.57)	22	1.7 (1.4–2.0)	67
Group	1.98 (1.60–2.46)	13	1.3 (1.1–1.6)	52
Tel quit line	1.37 (1.26–1.50)	9	1.6 (1.4–1.8)	9
Physician intervention				
Brief advice vs. no advice	1.66 (1.42–1.94)	17	1.3 (1.1–1.6)	7
Brief counseling vs. no advice	1.84 (1.60–2.13)	11	2.2 (1.5–3.2)	11
Brief counseling vs brief advice	1.37 (1.20–1.56)			

Success Rates of smoking cessation with medication and without medication

2- 3 %

Self/no medication



20-40%

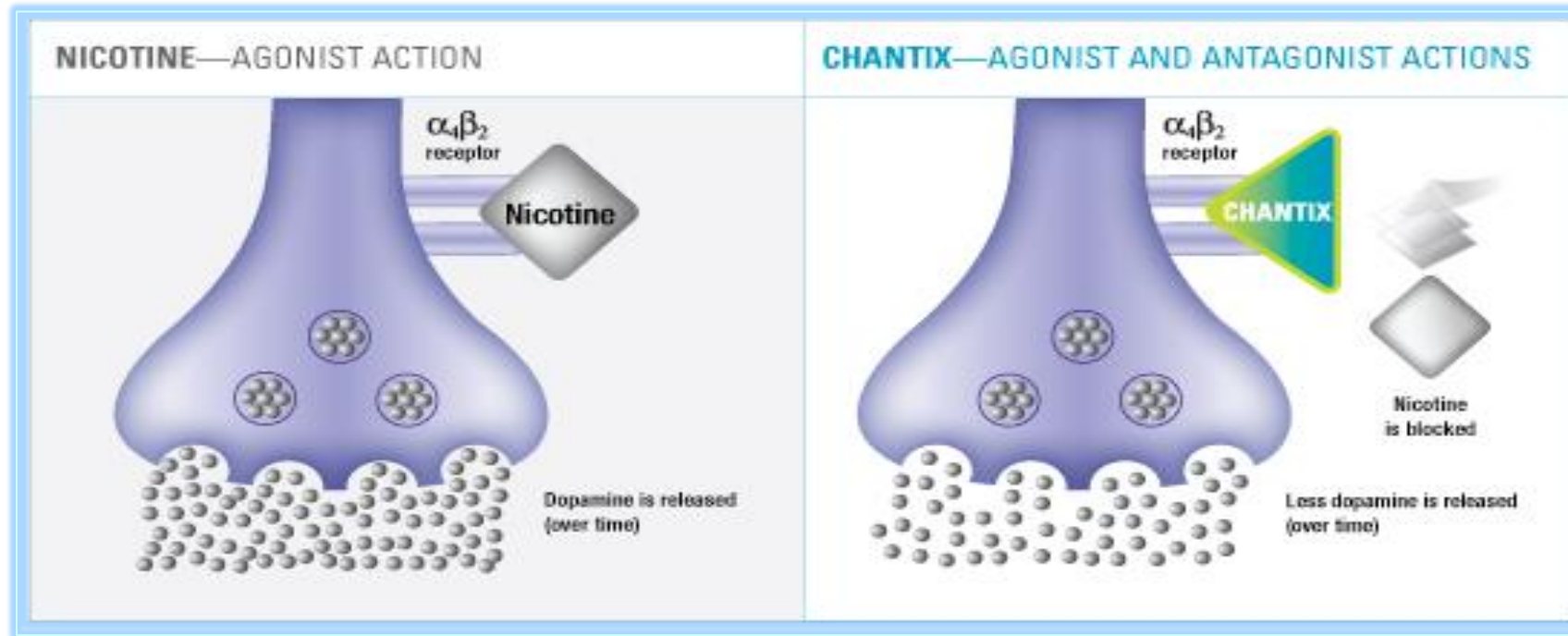
Education/medication

First line medications for Smoking cessation (FDA approved)



Mechanism of Varenicline

Selectively and competitively binds to $\alpha_4\beta_2$ nicotinic receptors in the brain, producing both **agonist** and **antagonist** effects



Agonist activity at lower level than nicotine, simultaneously preventing nicotine binding to these receptors.

Pharmacologic interventions

Cochrane Database

2008 PHS guideline

First-line drug

Bupropion	1.69 (1.53–1.85)	36	2.0 (1.8–2.2)	26
Varenicline	2.27 (2.02–2.55)	14	3.1 (2.5–3.8)	5
Nicotine replacement				
Nicotine patch	1.66 (1.53–1.81)	41	1.9 (1.7–2.2)	32
Nicotine gum	1.43 (1.33–1.53)	53	1.5 (1.2–1.7)	15
Nicotine lozenge	2.00 (1.63–2.45)	6	2 mg: 2.0	
Nicotine inhaler	1.90 (1.36–2.67)	4	2.1 (1.5–2.9)	6
Nicotine spray	2.02 (1.49–3.73)	4	2.3 (1.7–3.0)	4

Second-line drug

Nortriptylined	2.03 (1.48–2.78)	6	1.8 (1.3–2.6)	5
Clonidine	1.63 (1.22–2.18)	6	2.1 (1.2–3.7)	3

Source: Adapted from Rigotti 2012 with permission from American Medical Association, © 2014; Fiore et al 2008

Dosage , CIx & Duration of first line medications

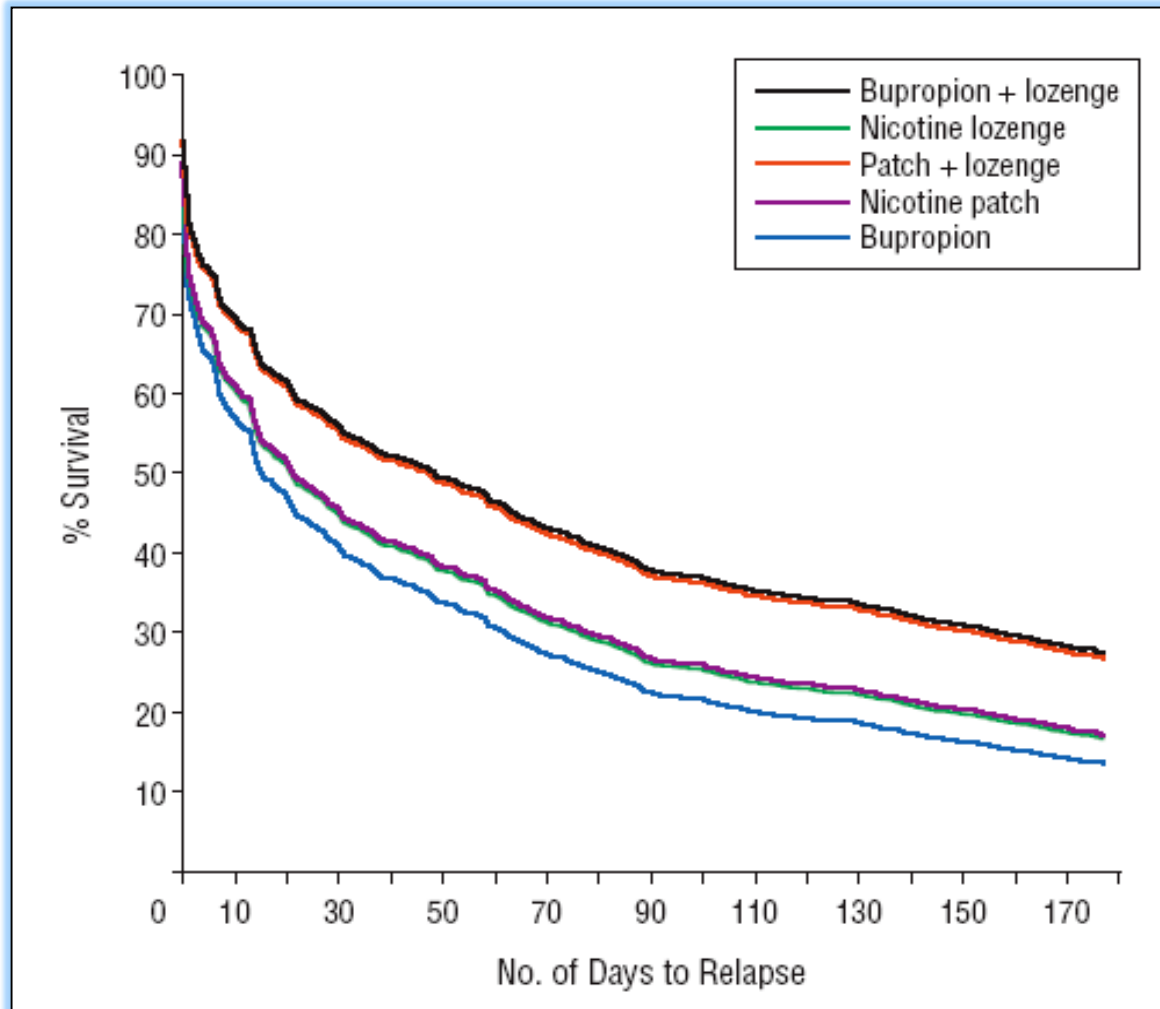
Medications	Contra Ix	Dosage	Duration
Bupropion SR	History of Seizure , eating disorders	150 mg for 3 ds then 150 mg bid(begin treatment 1–2 weeks	7–12 weeks up to 6 months
Nicotine gum		1–24 /d: 2mg, 25 /d: 4 mg gum	Up to 12 weeks
Nicotine inhaler		6–16 /d	Up to 6 months
Nicotine lozenge		Time to 1 st >30 m: 2 mg, ≤ 30m: 4 mg	Up to 12 weeks
Nicotine spray		8–40 doses/day	3–6 months
Nicotine patch		21 mg/24 hrs,14 mg/24 hrs 7 mg/24 hrs	4 weeks,then 2 weeks then 2 weeks
Varenicline	Significant kidney disease. Suicidal attempt	0.5 mg/d for 3 ds, 0.5 mg bid for 4 ds Then, 1 mg bid	3–6 months

Effectiveness and Abstinence Rates of Medications Compared With Placebo or Nicotine Patch at 6-Months

Medication	Arms	Abstinence rate (95% CI)	OR vs Placebo (95% CI)	OR vs Nicotine patch* (95% CI)
Monotherapies				
Varenicline (2 mg/d)	5	33.2 (28.9-37.8)	3.1 (2.5-3.8)	1.6 (1.3-2.0)
Nicotine nasal spray	4	26.7 (21.5-32.7)	2.3 (1.7-3.0)	1.2 (0.9-1.6)
Varenicline (1 mg/d)	3	25.4 (19.6-32.2)	2.1 (1.5-3.0)	1.1 (0.8-1.6)
Nicotine inhaler	6	24.8 (19.1-31.6)	2.1 (1.5-2.9)	1.1 (0.8-1.5)
Bupropion SR	26	24.2 (22.2-26.4)	2.0 (1.8-2.2)	1.0 (0.9-1.2)
Nicotine patch (6-14 weeks)	32	23.4 (21.3-25.8)	1.9 (1.7-2.2)	1.0
Long-term nicotine patch (>14 weeks)	10	23.7 (21.0-26.6)	1.9 (1.7-2.3)	1.0 (0.9-1.2)
Nortriptyline	5	22.5 (16.8-29.4)	1.8 (1.3-2.6)	0.9 (0.6-1.4)
Nicotine gum (6-14 weeks)	15	19.0 (16.5-21.9)	1.5 (1.2-1.7)	0.8 (0.6-1.0)

*Fiore MC, Jaén CR, Baker TB, et al. Treating Tobacco Use and Dependence: 2008 Update.

Comparative effectiveness of 5-pharmacotherapies



- RCT of 1346 smokers recruited , received 1 of 5 treatments for 8 wks
- **Combination pharmacotherapy** increased abstinence compared with monotherapies.

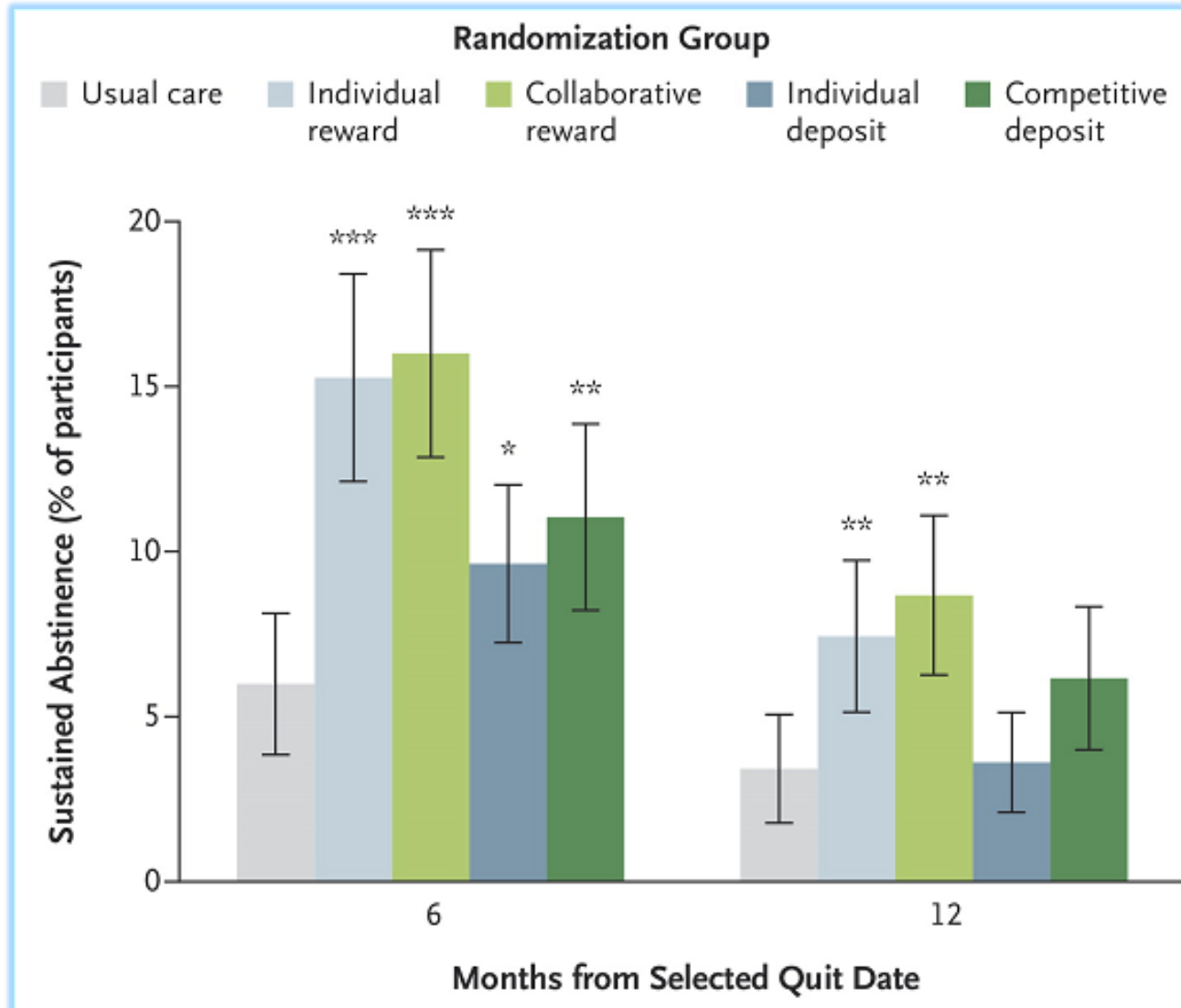
Smith SS, et al. Arch Intern Med 2009;169:2148-55

Cox regression survival analysis: survival curves

Special considerations in using medications

- ✚ The Nicotine patch : safe for cardiovascular patients
- ✚ Varenicline: used carefully for cardiovascular patients
- ✚ Varenicline + bupropion : *not recommended*, increased depression

The Effect of Randomized Trial of Four **Financial-Incentive Programs** for Smoking Cessation



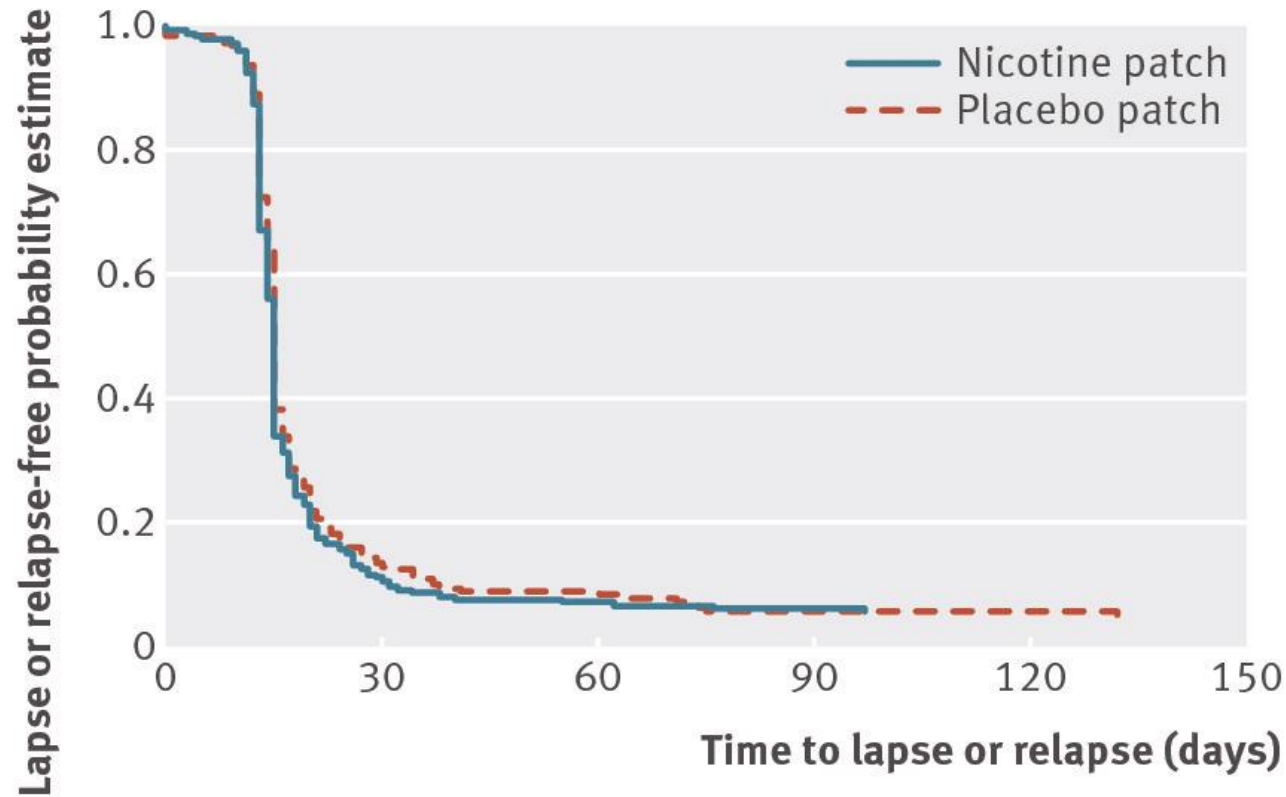
Rates of Sustained Abstinence from Smoking at 6 and 12 Months

The primary outcome was sustained abstinence through 6 months. Asterisks indicate P values (* for $P < 0.05$, ** for $P < 0.01$, and *** for $P < 0.001$) for the comparison of the four intervention groups to usual care

The effect of incentive programs for smoking cessation

- ✦ Eligible to receive \$200 at three times: 14 d, 30 d, and 6 m get
- ✦ Group-oriented programs were not more effective than individual-program
- ✦ Individual rewards of \$800 tripled the rate of smoking cessation

Reliable treatment for pregnant smokers



Counselling & support first in pregnancy .

Consider the damage between NRT & smoking

Mentally ill smokers in smoking cessation

- ① More common among smokers, account for almost half of all
- ② Lower rates of cessation success
- ③ On average die 25 years younger



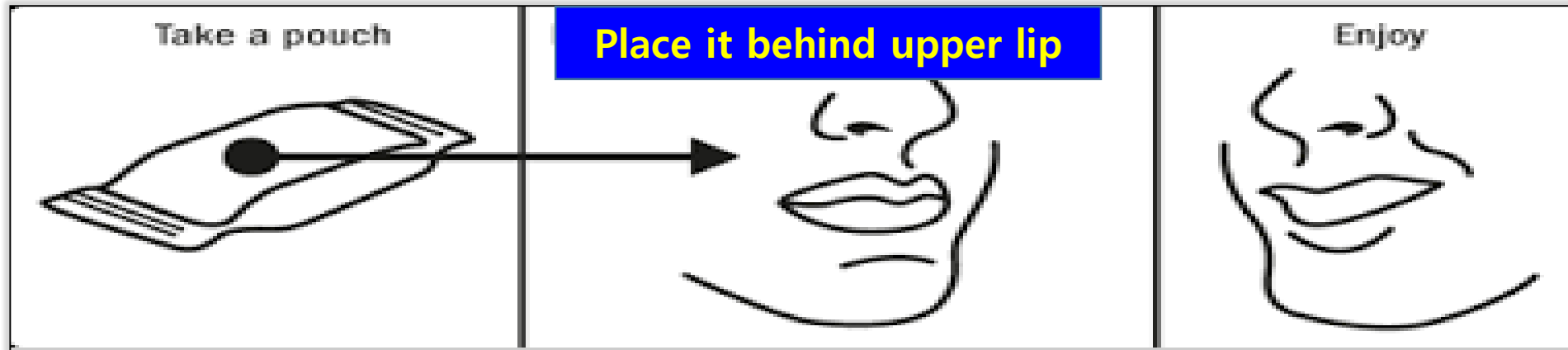
(Cook et al. JAMA 2014;311:172)

Emerging of new Tobacco/ Nicotine products (Smokeless tobacco/ electronic cigarette)



Snus : smokeless tobacco

- Smokeless snuff tobacco used in Sweden
 - Delivers harmful substances



Total abstinence rate (varenicline / snus)

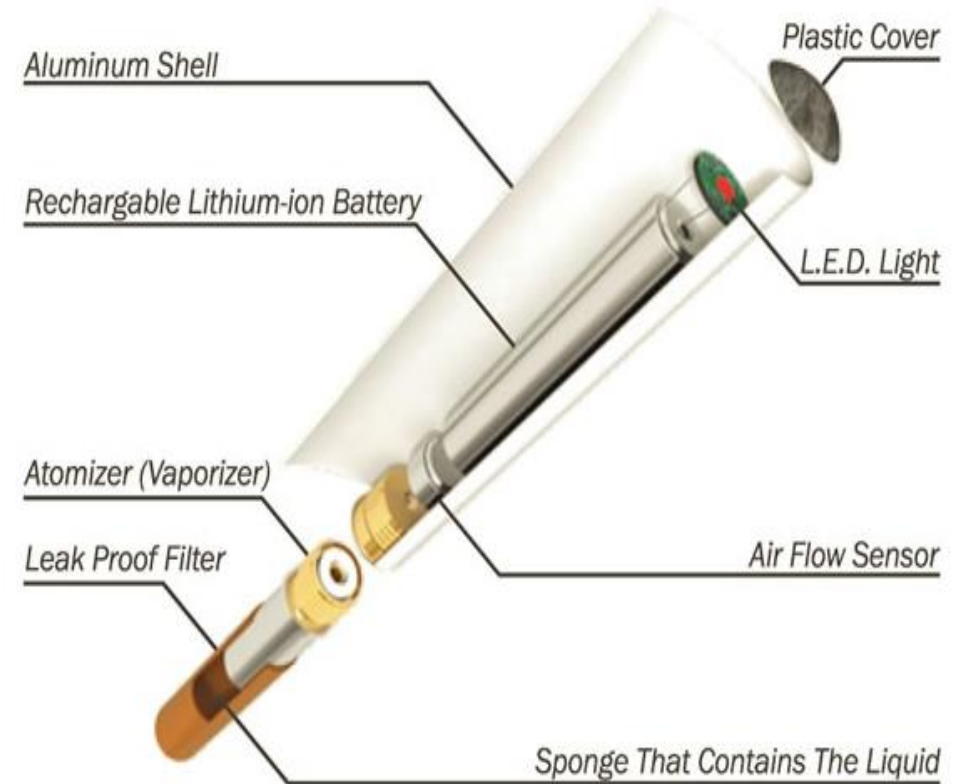
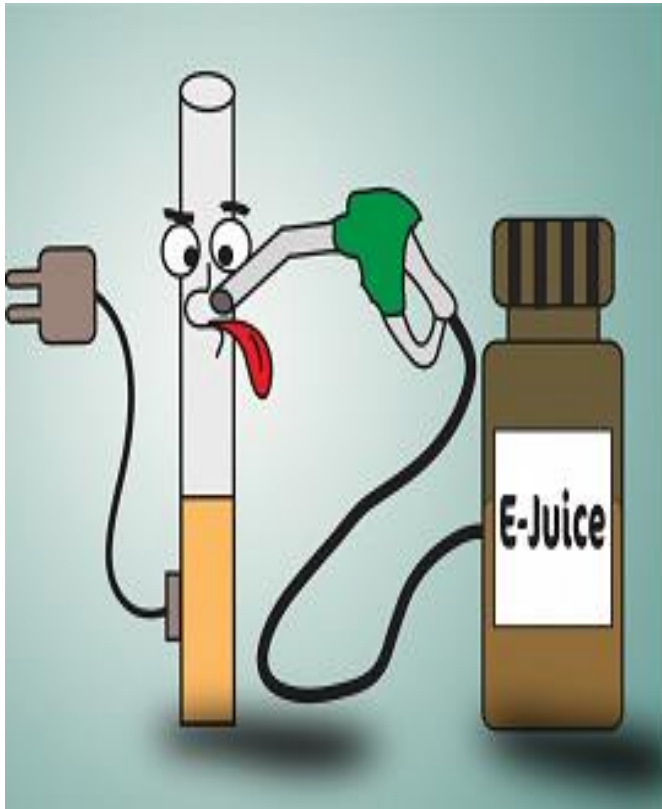
Nicotine chewing gum (reference $OR = 1$).



Varenicline vs Snus ($OR = 4.95$, $OR = 2.68$)

Karl EL et al. Nicotin Tob Res 2010 12(8):817

Electronic cigarette components.



Characteristics of E-cigarettes

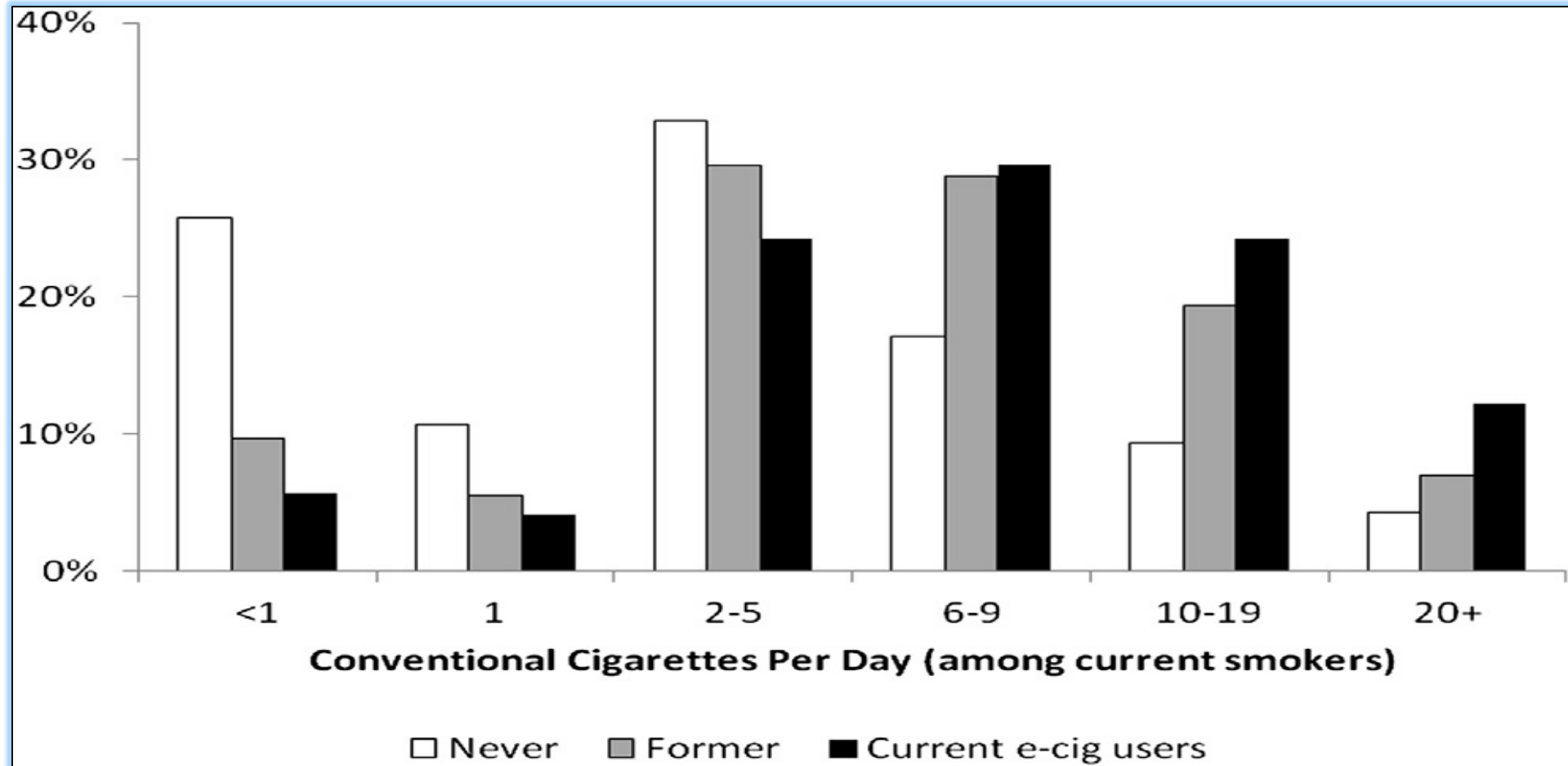
- Tobacco-free nicotine delivery devices?
- Look & like a traditional or a fashion accessory
- Do not provide information on the chemicals used
- Nicotine levels are formulated to target strengths,
- Measured levels not matched the label claim

The unexpected effect of E-cigarettes in middle & high school(USA)

- ✦ Among never-smokers used e-cigarettes,
 - 43.9% : conventional cigarettes.
- ✦ Among never smokers never used e-cigarettes,
 - 21.5% : conventional cigarettes.
- Middle school students had doubled e-cigarette use
- E-cigarettes generate a new market for nicotine dependence.



E- cigarette use among Korean Adolescents : Cross-sectional study



Among current smokers, current e-cigarette (e-cig) users smoke more conventional cigarettes than former e-cigarette or never users ($p < .0001$).

Important tips in smoking cessation clinics

- ① **Don't buy tobacco** and throw all kinds of related smoking
- ② **Use medications** which help to quit smoking.
- ③ **Don't drink alcohol and coffee:** cause to think smoking desire.
- ④ **Have a lot of vegetables and fruits** instead of meat.
- ⑤ **Exercise** to control weight and promote to quit.

Effects of Insurance Coverage for smoking cessation

Expanding insurance coverage increases the number of smokers who attempt to quit, by removing cost and administrative barriers that prevent smokers from accessing cessation counseling and medications.

Fiore et al. Am J of Preventive medicine 2007;33:349s
Tobacco cessation coverage 2012, American lung association

경청해주셔서 감사합니다

즐겁고 편안한 연휴 되시기 바랍니다