



Evidence-based Practice

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Learning objectives

- At the end of this presentation you will be able to
 - Identify and access research and resources
 - Define evidence-based practice
 - Help patients to distinguish effective treatment
 - Keep current with tobacco dependence treatment resources

Tobacco Treatment Specialists

- Practice evidence based medicine
- Provide a clear message identifying proven and effective tobacco dependence treatment
- Can knowledgeably discuss the evidence supporting treatment

People who are struggling with tobacco dependence are bombarded with bogus, misleading, and ineffective alternatives and sham treatments



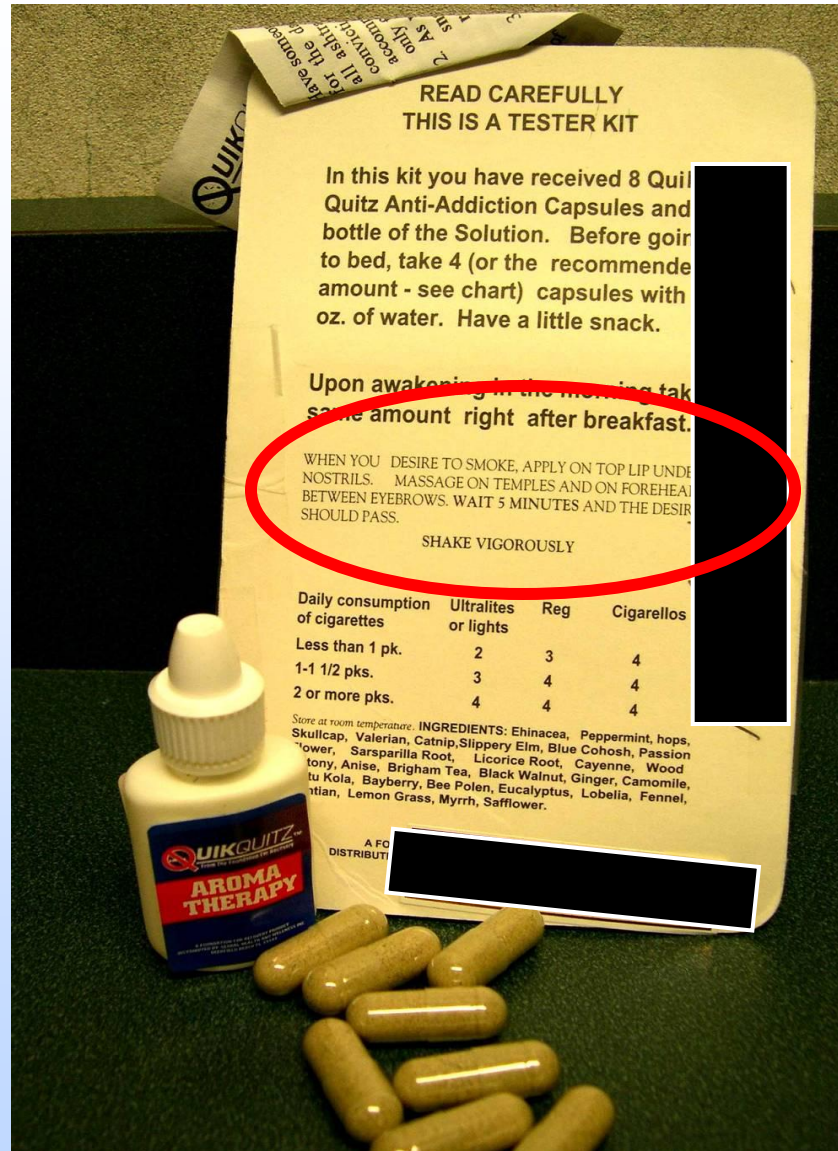


Stop smoking
with hypnosis







No medicine,
the only way





Smoking

Why Quit? 
[Save Money](#) 
Your Health 
Just Tobacco? 

Ways to Stop

About our Program

Easy as 
The **ami** Program
The SMART™ Shot

Help & Support

What's the Cost

Our Staff

Appointments

Go where leading hospitals and physicians send their patients, employees and family members to quit smoking!

ami Stop Smoking Clinic™

Featuring the SMART™ Shot
Greater Than 80% Success Rate



Click [here](#) to learn more about the AMI Stop Smoking Clinic™

Requires Microsoft Media Player: [Get it here](#)

At the **AMI Stop Smoking Clinic** — we have developed a safe and effective way to quit smoking that far exceeds that of nicotine replacement therapy (inhalers, gums, patches) or Zyban®. In addition, you have your own personal support system, composed of a **pulmonologist** (lung specialist), **respiratory therapist** and **counselors**.

Tobacco Industry



'Safe cigarette' claimed to cut cancer by 90%



PhilipMorrisUSA



Resources to learn about alternative products

Quitting and Reducing Tobacco Use Inventory of Products

<https://secure.tobaccofreekids.org/cessation>

FDA

<http://www.fda.gov/newsevents/publichealthfocus/ucm252360.htm>

Evidence Based Practice

- Current, best research evidence
- Clinical expertise
- Patient values

Sackett D, 2002

Scientific Evidence

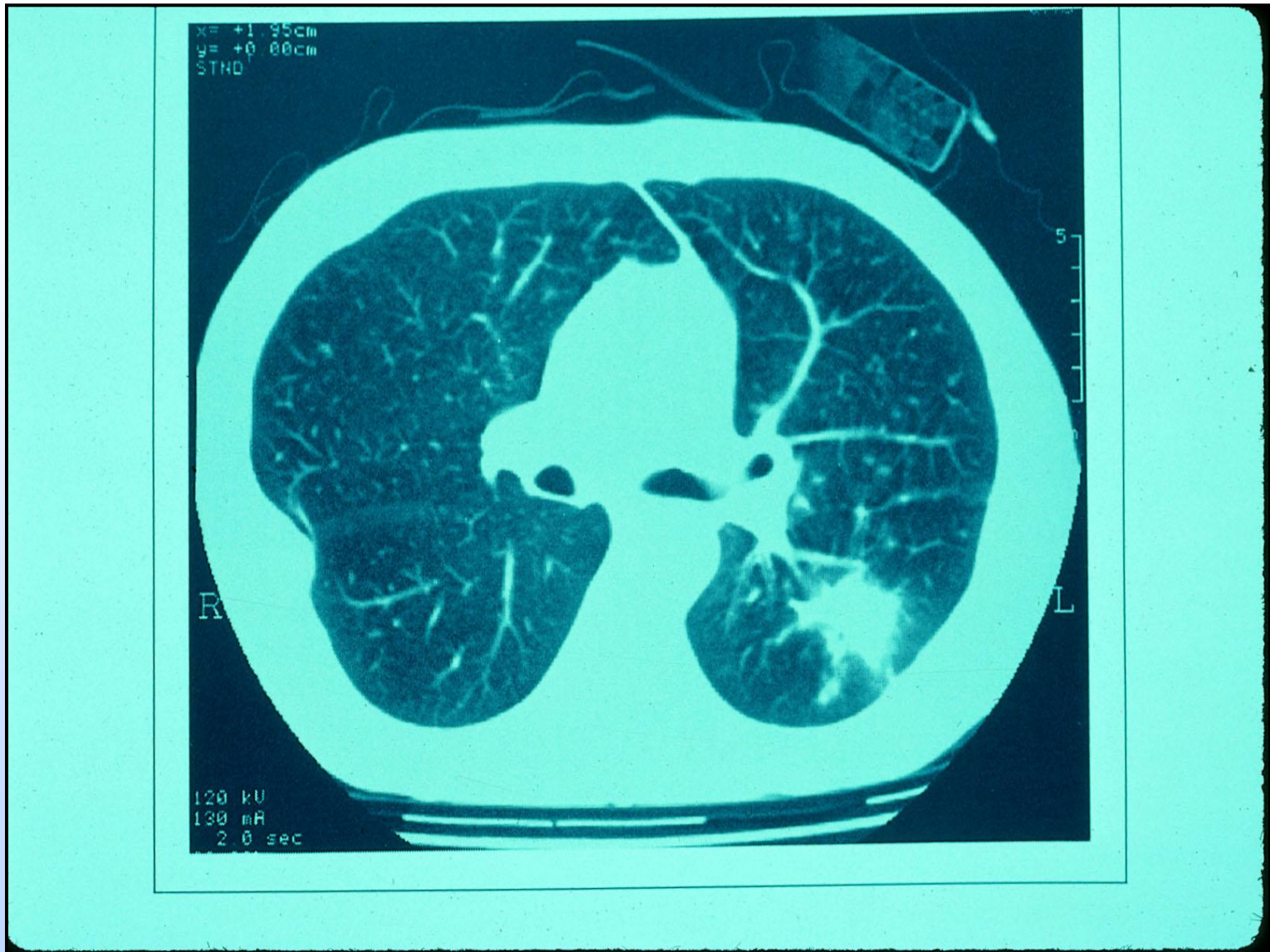
- Clinical experience
- Basic laboratory research
- Observational studies
- Randomized Control Trial (RCT)
- Meta-analysis and systematic reviews

Recommended sources

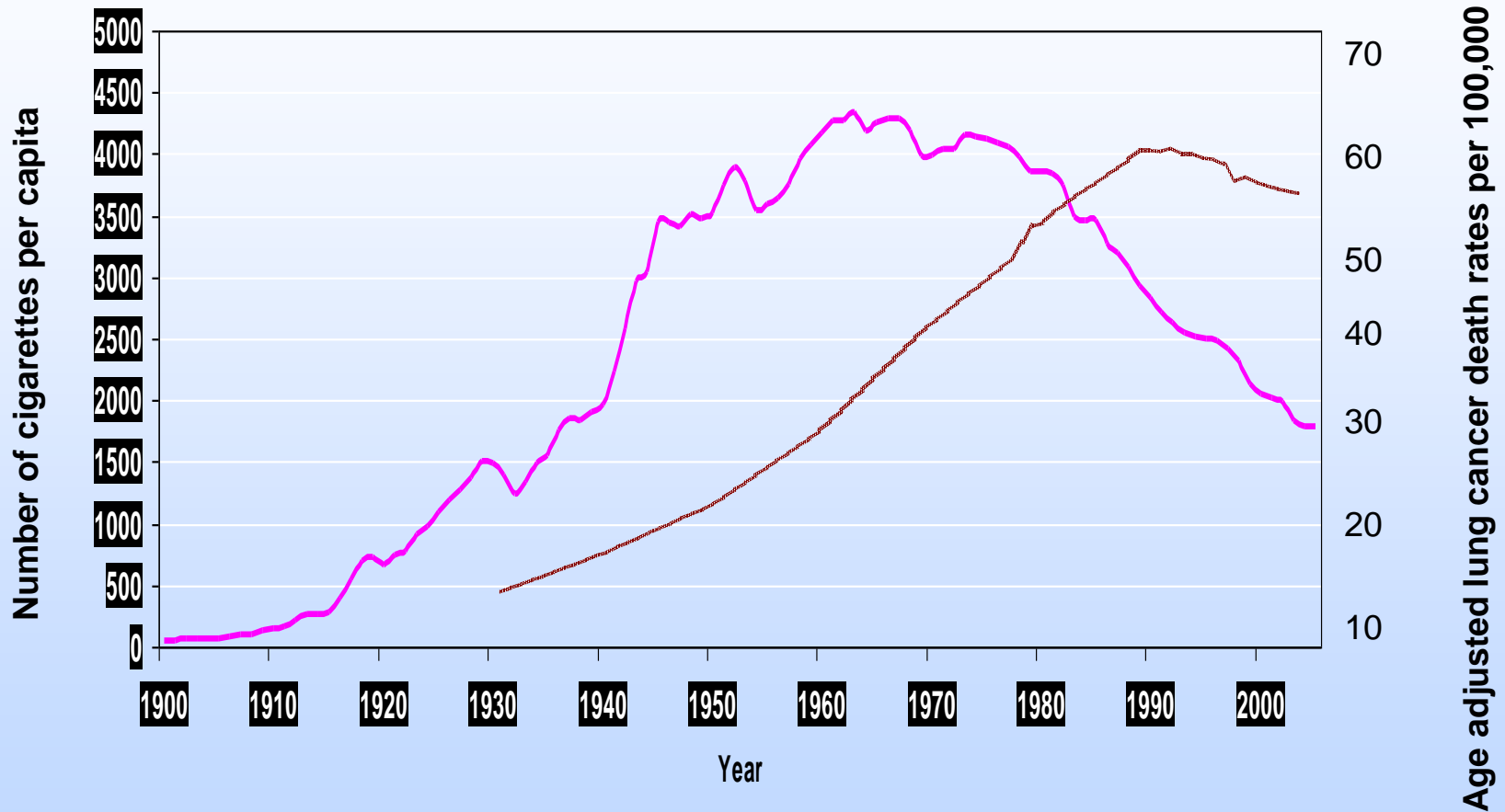
- Surgeon General reports on Tobacco
- Best Practices Comprehensive Tobacco Control (CDC) and Framework Convention on Tobacco Control (WHO)
- Cochrane Reviews
- USPHS Clinic Practice Guideline

First Surgeon General Report

The question about cause and effect



1900-2005 U.S. Per Capita Cigarette Consumption and 1930-2005 Age Adjusted Lung Cancer Death Rate per 100,000



NCHS Vital Statistics; death rates are age-adjusted to 2000 US standard population

Association is not causation

1964 Surgeon General Report

- Strength and association
- Consistency
- Specificity
- Temporality
- Biological gradient
- Biological plausibility
- Experimental evidence



Most Recent Surgeon General Reports

<http://www.cdc.gov/tobacco/>

- The Health Consequences of Smoking 2004
- The Health Consequences of Involuntary Exposure to Tobacco Smoke 2006
 - The Debate is Over
- How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease 2010

What works for community interventions

- Best Practices Comprehensive Tobacco Control (CDC)
- MPOWER (WHO – FCTC)

Best Practices for Comprehensive Tobacco Control Programs

- State and community interventions
 - What should state plans include
- Health communication interventions
- Cessation interventions
- Surveillance and evaluation
- Administration and management



http://www.cdc.gov/tobacco/tobacco_control_programs.htm

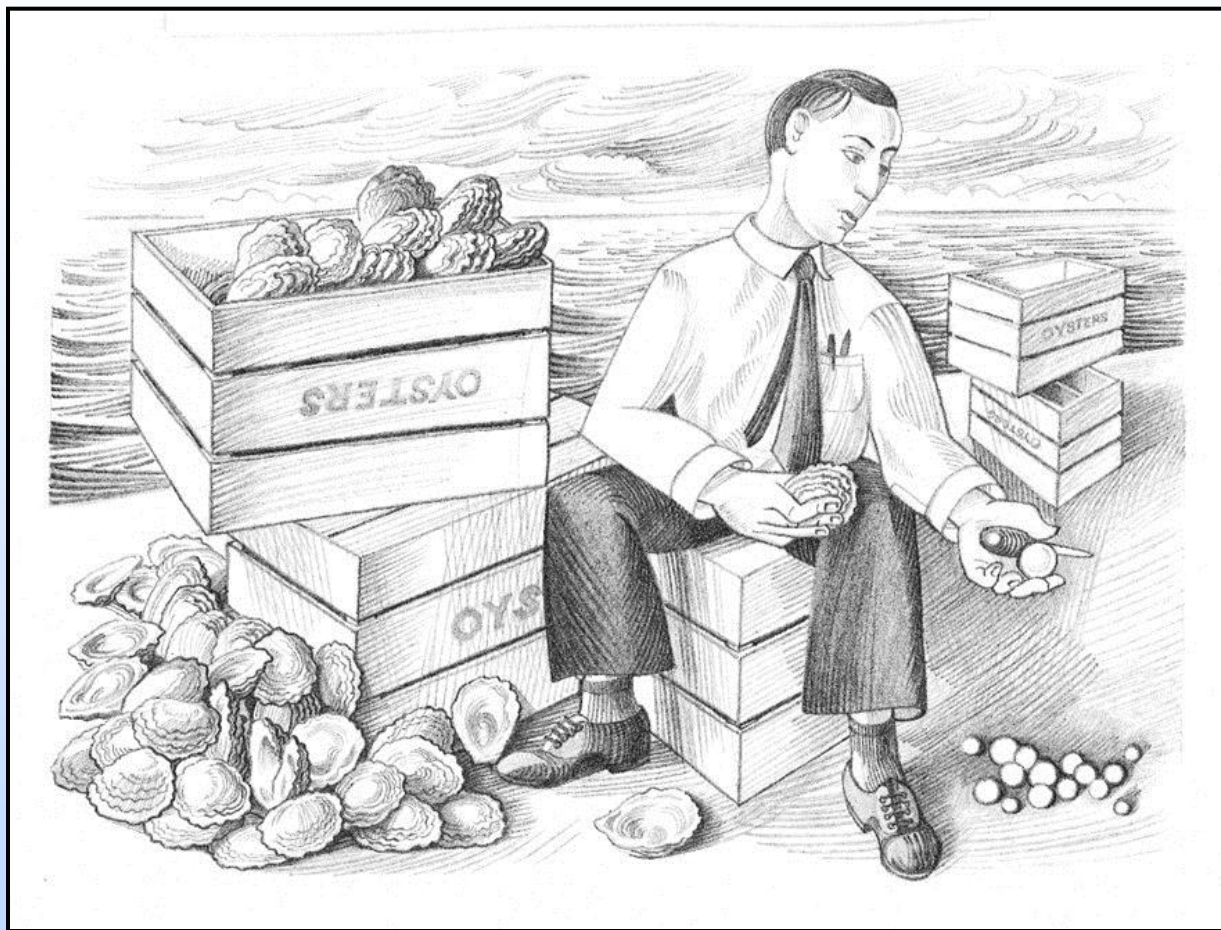
MPOWER

<http://www.who.int/tobacco/mpower/package/en/index.html>

- Monitor tobacco use and prevention policies
- Protect people from tobacco smoke
- Offer help to quit tobacco use
- Warn about the dangers of tobacco
- Enforce bans on tobacco advertising, promotion and sponsorship
- Raise taxes on tobacco

<http://www.who.int/fctc/en/>

Systematic Reviews and Meta-analysis



Greenhalgh, T:BMJ 315:672-675, 1997

Characteristics of a good study

- Randomization
- “Blinding”
- Placebo
- Size of study
- Complete follow-up
- Intention to treat analysis
- Biochemical validation

Three study comparison

- Please read parts of the three studies
 - Alhatem and Black - Read first page
 - Nohlert et. Al. Read Abstract, Methods, results, Figure 1 and Table 3
 - Jorenby et. Al. Read Abstract and pages 57, 58 Table 1 and Figure 3

| Study | Alhatem & Black | Nohlert et al | Jorenby et al |
|------------------------|-----------------|---------------|---------------|
| Randomization | | | |
| Blinding | | | |
| Placebo | | | |
| Size | | | |
| Follow-up and ITT | | | |
| Biochemical validation | | | |

Systematic reviews

- State objectives and search literature
- Assess study quality
- Assemble data and analyze
 - May use meta-analysis
- Prepare a critical summary

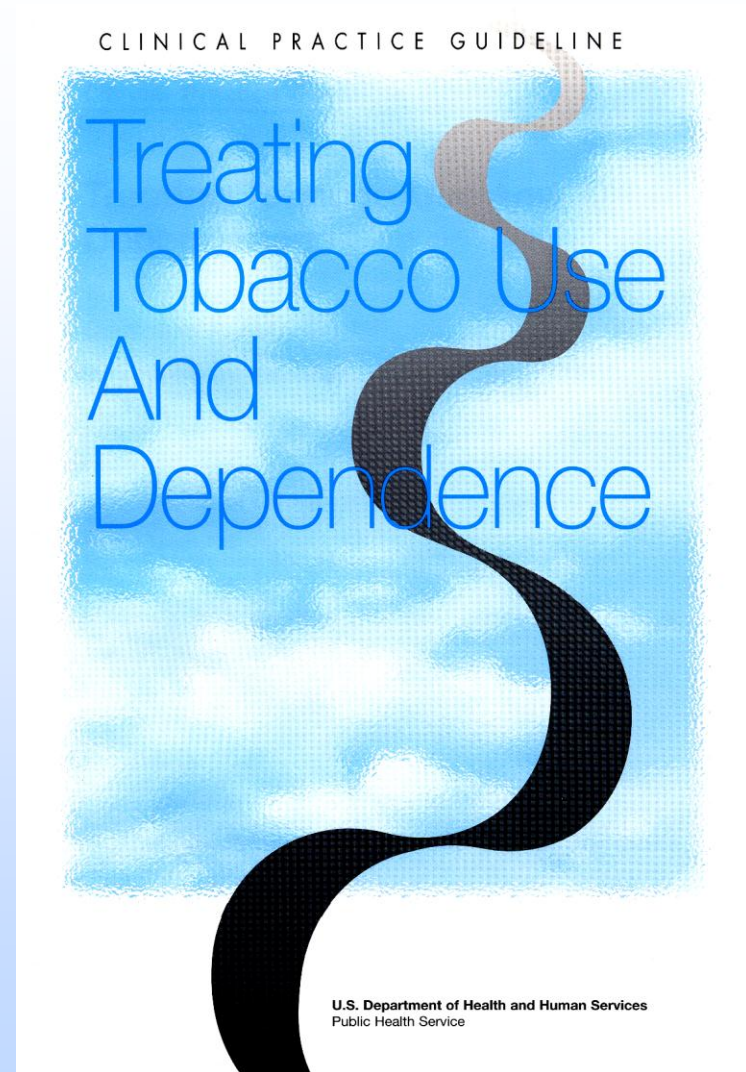
Cochrane reviews provide a comprehensive resource

<http://www.cochrane.org/reviews/>

- Complementary medicine
 - Acupuncture, hypnosis, exercise, silver acetate
- Medications
 - NRT, anti-depressants, nicotinic receptor agonists, cannabinoid receptors
- Behavioral interventions
 - Self-help, individual counseling, group counseling, partner support, competitions, aversive smoking, relapse prevention
- Health care provider interventions
 - Brief visit
 - Telephone counseling
 - Workplace interventions
 - Community interventions

USPHS Clinical Practice Guideline 2008

<http://www.surgeongeneral.gov/tobacco/>



Clinical Practice Guideline: Treating Tobacco Use and Dependence Update

- History:
 - 1996: Initial Guideline; reviewed 3,000 articles
 - 2000: Revised Guideline another 3,000 articles
 - 2008: Updated Guideline; another 2,700 articles
- Meta-analysis
 - Select appropriate trials, combine to increase reliability and power

Clinical practice guidelines statistics

- Odds Ratio (O.R.)
- Confidence Interval (C.I.)

Calculating Odds Ratio

| Group | Total n | n Abstinent |
|---------|---------|-------------|
| Active | 100 | 25 |
| Placebo | 100 | 10 |

| Group | Ratio abstinent | Odds abstinent | Odds ratio |
|---------|---------------------------------------------------------|----------------|------------|
| Active | $\frac{25 \text{ abstinent}}{75 \text{ not abstinent}}$ | .333 | 3.0 |
| Placebo | $\frac{10 \text{ abstinent}}{90 \text{ not abstinent}}$ | <u>.111</u> | |

Odds ratio and confidence interval

| Medication | Number of arms | Estimated odds ratio (95% confidence) | Estimated abstinence rate (95% confidence) |
|-----------------------------|----------------|---------------------------------------|--------------------------------------------|
| Placebo | 80 | 1.0 | 13.8 |
| Nicotine patch (6-14 weeks) | 32 | 1.9 (1.7-2.2) | 23.4 (21.3-25.8) |
| High dose patch (> 25 mg.) | 4 | 2.3 (1.7-3.0) | 26.5 (21.3-32.5) |
| Patch + ad-lib gum or spray | 3 | 3.6 (2.5-5.2) | 36.5 (28.6-45.3) |
| Varenicline (2 mg/day) | 5 | 3.1 (2.5-3.8) | 33.2 (28.9-37.8) |

Fiore MC, Bailey WC, Cohen SJ. (U.S. Department of Health and Human Services. Public Health Service). Treating Tobacco Use and Dependence. 2008 May.

Confidence Interval

95% likelihood that the actual 'true' value is within this range

| Total amount of contact time | Abstinence Rate (95% CI) |
|------------------------------|--------------------------|
| No minutes | 10.2% |
| 1-3 minutes | 14.4% (11.3-17.5%) |
| 4-30 minutes | 18.8% (15.6-22.0%) |
| 31-90 minutes | 26.5% (21.5-31.4%) |
| 91-300 minutes | 28.4% (21.3-35.5%) |

Fiore MC, Bailey WC, Cohen SJ. (U.S. Department of Health and Human Services. Public Health Service). Treating Tobacco Use and Dependence. 2008 May.

USPHS Guidelines

10 Recommendations

1. Tobacco dependence is a chronic disease
 1. requires repeated intervention
 2. multiple attempts to quit.
2. Systems should identify and treat all tobacco users.
3. Tobacco dependence treatments are effective. Every patient willing should use counseling and medications.
4. Brief tobacco dependence treatment works.

USPHS Guidelines

10 Recommendations

5. Individual, group, and telephone counseling are all effective.
6. All patients should be encouraged to use medications unless contraindicated.
7. Counseling and medication are effective alone and more in combination.

USPHS Guidelines

10 Recommendations

8. Telephone quitline counseling is effective.
9. If a tobacco user currently is unwilling to make a quit attempt, use motivational treatments.
10. Tobacco dependence treatments are both clinically effective and highly cost-effective.
 1. Insurers and purchasers should ensure that all insurance plans include counseling and medication as covered benefits.

Making the case for treating tobacco dependence

CEO Roundtable: Gold standard

- Tobacco free worksite policies
- Health benefit coverage at no cost
 - Counseling and medication
- Establish workplace based tobacco cessation initiatives
- www.ceoroundtableoncancer.org

Rationale for coverage

- Smoking is the leading preventable cause of death in the US (1,2)
- Smokers who quit will, on average, live longer and have fewer years living with disability (3, 4)
- In 1999, each adult smoker cost employers \$1,760 in lost productivity and \$1,623 in excess medical expenditures (5)
- Tobacco treatment counseling is one of the top priorities among recommended preventive services (6,7)

Rationale for coverage

- There is a dose response relationship between treatment intensity, treatment effectiveness, and cost effectiveness (1)
- Cost sharing for preventive care reduces utilization (8,9,10,11)
- Cost sharing for prescription drugs and nicotine replacement medications can reduce utilization and negatively impact treatment outcomes (9, 12,13)

Provide coverage for evidence-based treatment

- As recommended by the Public Health Service
 - Medication
 - Over the counter
 - Prescription
 - In combination and as needed
 - Counseling
 - Group, individual, phone
- Eliminate or minimize co-pays or deductibles
 - even small copayments reduce utilization



U.S. OFFICE OF PERSONNEL MANAGEMENT

YOU CAN AFFORD TO **QUIT** SMOKING

**No more copays,
coinsurance, deductibles,
or dollar limits.**

Talk to your healthcare provider today.

**New package of benefits
–Take advantage of it.**



All **FEHB** plans now offer 100% coverage.

Comparably very cost effective

| Therapy | Patient | Cost per yrs of life saved |
|-------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------|
| Physician counseling and medication smoking cessation | Tobacco dependent | \$1,300-\$3,900 |
| B -blocker | <u>Post MI</u> | |
| | High risk | \$ 3,600 |
| | Low risk | \$ 20,200 |
| Intensive glucose control | <u>Diabetes</u> Newly diagnosed type 2 | \$ 35,300 |
| Lovastatin | <u>Cholesterol > 300 mg/dL</u> Men aged 55-64 with no other risk factors | \$ 78,300 |
| CABG | Two-vessel CAD, severe angina | \$ 42,500 |

Probstfield, 2003

Summary

- Evidence Based Practice should be utilized to deliver most effective methods of treatment.
- Four reliable sources for evidence based information.
- Responsibility of TTS to remain current with new information and be able to assess validity of studies and treatment program outcomes.
- The evidence supports that treating tobacco dependence is effective and highly cost-effective

References

See attached