Cost-effectiveness of the Clinical Practice Recommendations in the AHCPR Guideline for Smoking Cessation

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Context.—The Agency for Health Care Policy and Research (AHCPR) published the *Smoking Cessation: Clinical Practice Guideline* in 1996. Based on the results of meta-analyses and expert opinion, the guideline identifies efficacious interventions for primary care clinicians and smoking cessation specialty providers.

Objective.—To determine the cost-effectiveness of clinical recommendations in AHCPR's guideline.

Design.—The guideline's 15 recommended smoking cessation interventions were analyzed to determine their relative cost-effectiveness. Then, using decision probabilities, the interventions were combined into a global model of the guideline's overall cost-effectiveness.

Patients.—The analysis assumes that primary care clinicians screen all presenting adults for smoking status and advise and motivate all smokers to quit during the course of a routine office visit or hospitalization. Smoking cessation interventions are provided to 75% of US smokers 18 years and older who are assumed to be willing to make a quit attempt during a year's time.

Intervention.—Three counseling interventions for primary care clinicians and 2 counseling interventions for smoking cessation specialists were modeled with and without transdermal nicotine and nicotine gum.

Main Outcome Measure.—Cost (1995 dollars) per life-year or quality-adjusted life-year (QALY) saved, at a discount of 3%.

Results.—The guideline would cost $6.3 billion to implement in its first year. As a result, society could expect to gain 1.7 million new quitters at an average cost of $3779 per quitter, $2587 per life-year saved, and $1915 for every QALY saved. Costs per QALY saved ranged from $1108 to $4542, with more intensive interventions being more cost-effective. Group intensive cessation counseling exhibited the lowest cost per QALY saved, but only 5% of smokers appear willing to undertake this type of intervention.

Conclusions.—Compared with other preventive interventions, smoking cessation is extremely cost-effective. The more intensive the intervention, the lower the cost per QALY saved, which suggests that greater spending on interventions yields more net benefit. While all these clinically delivered interventions seem a reasonable societal investment, those involving more intensive counseling and the nicotine patch as adjuvant therapy are particularly meritorious. *JAMA.* 1997;278:1759-1766

TOBACCO use has been cited as the chief avoidable cause of death in the United States, responsible for more than 420 000 deaths annually.[1] Despite this, physicians and other practitioners fail to assess and counsel smokers consistently and effectively.[2-4]

This study analyzes the cost-effectiveness of the Agency for Health Care Policy Resource's (AHCPR's) *Smoking Cessation: Clinical Practice Guideline*.[5] Released in April 1996, the guideline was developed over a 2-year period by a panel of smoking cessation specialists using extensive quantitative analysis of published effectiveness data. Recommendations include screening all presenting patients for tobacco use, advising patients who use tobacco to quit, and providing interventions that appear most efficacious. The recommendations were based on rigorous logistic regression meta-analyses of various cessation intervention outcomes, ranging from self-help materials to multisession group counseling lasting several hours or more. Recommendations were targeted specifically to 3 audiences: primary care clinicians; cessation specialists; and administrators, insurers, and purchasers of health care services.

Formulation of optimal health care policy requires an analysis of the costs of recommended interventions relative to their clinical effectiveness. This information is not readily available in the case of the AHCPR's guideline. Few claims data exist to quantify current practice. Most counseling services are an integral part of physician-patient contacts with no separate billing, while other services, such as nicotine replacement and intensive counseling, are generally not covered by insurance and, hence, do not produce a claims trail.

Finally, the benefits of stop-smoking treatments may be difficult to assess accurately. The immediate effect of efficacious treatment is smoking cessation, and this may or may not be related to immediate health benefits. Even when c tion leads to health benefits, these benefits are delayed many years, occurring

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Since publication of the AHCPR Smoking Cessation Clinical Practice Guideline in April 1996, Dr Fiore has done consulting, received funding for clinical research studies, and/or spoken on behalf of GlaxoWellcome, SmithKline Beecham, and McNeil pharmaceutical companies. Dr Baker has done consulting, on, and/or speaking for SmithKline Beecham pharmaceutical company. Prior to 1994 (when work on the Guideline began), Drs Baker and Fiore had worked on clinical research studies funded in part by ALZA Corp, CIBA-Geigy Corp, Elan Pharmaceutical, Lederle Laboratories, Glaxo Wellcome, SmithKline Beecham, and Hoechst Marion Roussel Inc. Prior to 1994, Dr. Fiore had received honoraria for educational activities from CIBA-Geigy, Elan, Lederle, Marion Merrell Dow Inc, and Parke-Davis.

The statements contained in this article are solely those of the authors and do not necessarily reflect the views or opinions of the Agency for Health Care Policy and Research.

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Wm G. White 08/08/97 03:58:55 PM

Record Type: Record

To: Joshua Gotbaum/OMB/EOP

cc: See the distribution list at the bottom of this message
Subject: Follow-Up on Smoking Cessation Issues

As a follow-up to our discussion on Wednesday regarding the effectiveness of formalized cessation programs, I created a table below which outlines the potential benefit of the $1 billion per year cessation program proposed in the tobacco settlement. Such a program has the potential to increase the total number of people who quit smoking every year from the current 1.25 million (2.5%) of the 50 million smokers to 2 million (4%).

However, this large of an increase would probably not occur, since many of the 1.25 million smokers who would normally quit using their own resources would seek out the subsidized services of the Federal program. It is also likely that the $1 billion Federal program could encourage private health insurance carriers to drop smoking cessation benefits thereby reducing access to these services in the private sector.

Arithmetic Estimate of the Impact of $1 Billion Per Year Cessation Program Proposed in Settlement on Smoking	
1. # of U.S Smokers	50,000,000
2. # who will quit annually w/out settlement policies (2.5%)	1,250,000
3. $ in Settlement for Cessation Per Year	$1,000,000,000
4. # of people settlement $ could provide cessation counseling and services (assumes $200 price for services)	5,000,000
5. # who could successfully quit as result of settlement $ (assumes AHCPR 15% success rate)	750,000
6. Total number of smokers who could potentially quit (lines 2 + 5)	2,000,000
Source for lines #1 and #2: HHS	

The $1 billion included in the settlement could theoretically finance cessation counseling and Nicotine Replacement Therapy (NRT) services for roughly 5 million people or 10% of all smokers. (This is the same percentage of smokers who enrolled in free formal cessation programs in the Group Health cessation study.) Assuming the AHCPR cessation guideline success rate of 15%, 750,000 of these smokers could potentially quit smoking. This number could theoretically be in addition to the 1.25 million people who quit every year on their own or through formal cessation programs financed by their insurer. However, it is likely that many of this 750,000 would have quit on their own in the absence of the Federal program. Such a program has the potential of crowding out those that would normally quit on their on at no expense to the Federal government.

If the policy objective is to increase the number of people utilizing formal cessation services, a better approach may be for the Federal government to provide incentives to private insurers to offer these benefits. For example, smoking cessation benefits could be added to the list of quality measures used as part of the Health Plan Employer Data and Information Set (HEDIS) developed by the National Committee for Quality Assurance (a non-government entity) to rate the value of health plans.

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As part of the legislative process, the HHS is preparing a list of alternative cessation resource allocation options and how many quitters each option may produce. They caution that this is a very inexact science.

~~The success of the intervention is not~~

SE ASSIST

SMOKING KILLS MORE THAN 400,000 PERSONS A YEAR IN THE UNITED STATES. EVERY OFFICE VISIT IS AN OPPORTUNITY TO PROMOTE SMOKING CESSATION.

Assist the patient with a quit plan

Advise the smoker to:

- Set a quit date, ideally within 2 weeks.
- Inform friends, family, and coworkers of plans to quit, and ask for support.
- Remove cigarettes from home, car, and workplace and avoid smoking in these places.
- Review previous quit attempts—what helped, what led to relapse.
- Anticipate challenges, particularly during the critical first few weeks, including nicotine withdrawal.

Give advice on successful quitting:

- Total abstinence is essential—not even a single puff.
- Drinking alcohol is strongly associated with relapse.
- Having other smokers in the household hinders successful quitting.

Encourage use of nicotine replacement therapy:*

- Both the nicotine patch and nicotine gum are effective pharmacotherapies for smoking cessation.
- The nicotine patch may be easier to use than the gum in most clinical settings.

Make culturally and educationally appropriate materials on cessation techniques readily available in your office.

*For more information on prescribing, precautions, and side effects, see the *Clinical Practice Guideline*.

This *Clinician's Guide* is based on the *Clinical Practice Guideline on Smoking Cessation*. It was prepared by a panel of experts convened by the Agency for Health Care Policy and Research, and reflects a thorough review of evidence from clinical studies spanning 1978 to 1994.

For more copies of this guide, the complete *Clinical Practice Guideline*, a *Quick Reference Guide for Smoking Cessation Specialists*, a *Consumer Version* (available in English and Spanish), or a list of other AHCPR guidelines, call 800-358-9295 or write:

AHCPR Publications Clearinghouse
P.O. Box 8547
Silver Spring, MD 20907

These and other guidelines are available through the Internet (http://www.ahcpr.gov/guide/). Copies of this and other brochures are free through InstantFAX, which operates all day every day. Using a fax machine equipped with a touchtone telephone, dial 301-594-2800, push 1, and then press the start button for instructions and a list of publications.

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A GUIDE FOR PRIMARY CARE CLINICIANS

HELPING SMOKERS QUIT

Every person who smokes should be offered smoking cessation treatment at every office visit.

Clinicians should ask about and record the tobacco-use status of every patient.

Cessation treatment even as brief as 3 minutes a visit is effective.

The more intense the treatment, the more effective it is in producing long-term abstinence from tobacco.

Nicotine replacement therapy (nicotine patches or gum), social support, and skills training are effective components of smoking cessation treatment.

Health care systems should be modified to routinely identify and intervene with all tobacco users at every visit.

A GUIDE FOR PRIMARY CARE CLINICIANS

ASK ADV

Ask about smoking

Implement an officewide system that ensures that tobacco-use status is obtained and recorded for every patient at every office visit.

Include tobacco use in vital signs data collected

Or,
place tobacco-use status stickers on all patient charts, or indicate smoking status using computer reminder systems.

Advise tobacco users to quit

In a clear, strong, and personalized manner, urge every smoker to quit.

Be clear. ("I think it is important for you to quit smoking now, and I will help you.")

Speak strongly. ("As your clinician, I need you to know that quitting smoking is the most important thing you can do to protect your current and future health.")

Personalize your advice. ("You've already had one heart attack.") Mention the impact of smoking on children or others in the household. ("You know your children need you.")

Intensive Programs

Offer intensive smoking cessation programs.

If your patient prefers intensive treatment or you think such a program is appropriate, refer him or her to an intensive smoking cessation program administered by a specialist. Always follow up with the patient about quitting.

- Intensive programs are strongly correlated with cessation success.
- Information obtained in the assessment (e.g., comorbidity, stress level) is useful in counseling.
- Many different types of clinicians (e.g., nurses, dentists, psychologists) are effective in increasing quit rates.
- Intensive programs should offer 4–7 sessions, each at least 20–30 minutes in length, lasting at least 2 weeks.
- Counseling should offer problem solving and skills training as well as social support.
- Counseling should reinforce motivation to quit and relapse prevention. Individual and group counseling are both effective.
- Every smoker should be offered nicotine replacement therapy (patch or gum), except when medically contraindicated.

If a smoker doesn't want to quit, clinicians should ask questions at each visit that help the patient identify (1) reasons to quit and (2) barriers to quitting. Pledge to assist the patient when he or she is ready to quit.

Key Treatment Strategies

Three treatment strategies are particularly effective:

- Nicotine replacement therapy—should be encouraged for most patients. Although the patch and gum are both effective, the patch is associated with fewer compliance problems and requires less effort to train patients in its use.

  Patch: Plan on 8 weeks of therapy. Starting on the quit day, place a new patch, each morning, on a relatively hairless place between the neck and the waist. Consult package insert for dosing suggestions and precautions.

  Gum: Use for up to 3 months. Patients often do not use enough gum to get maximum benefit. Use one piece every 1–2 hours. Chew and "park" gum (between cheek and gum) intermittently for about 30 minutes to allow nicotine absorption. Use 4 mg (vs. 2 mg) dose for highly dependent smokers.

  Nasal Spray: Recently approved by FDA. Consult package insert for dosing and precautions.
- Clinician-provided social support—communicate caring and concern by being open to the patient's fears and difficulties.
- Skills-training/problem-solving techniques—review previous quit successes and failures, anticipate relapse risk situations, and stress total abstinence starting on the quit day.

Follow Up

Schedule followup contact, either in person or by telephone.

Timing

- First followup contact within 2 weeks of the quit date, preferably during the first week.
- Second contact within the first month.
- Further followup contacts as needed.

Actions during followup visits:

- Congratulate success.
- If a lapse occurred, ask for recommitment to total abstinence.
- Remind the patient that a lapse can be used as a learning experience and review the circumstances that caused it. Suggest alternative behaviors.
- Identify problems encountered and anticipate challenges in the immediate future.

All treatment strategies apply to **adolescents** who smoke. Clinicians should be empathetic and nonjudgmental, and should personalize the encounter to the adolescent's individual situation. Nicotine replacement therapy may be considered in adolescents addicted to nicotine.

Prevent Relapse

To prevent relapse, offer ex-smokers reinforcement.

- Congratulate, encourage, and stress importance of remaining abstinent.
- Review the benefits, including potential health benefits, to be derived from cessation.
- Review the patient's success in quitting.
- Inquire about problems encountered in maintaining abstinence and offer possible solutions.
- Anticipate problems or threats to maintaining abstinence.

Discuss specific problems, such as:

- Weight gain
- Negative mood/depression
- Prolonged nicotine withdrawal
- Lack of support for cessation

Fear of **weight gain** is an impediment to smoking cessation. Inform smokers that many people gain weight when they stop smoking. Tell them that weight gain is a minor risk compared with the risks of continued smoking. Tell patients to tackle one problem at the time—first be confident that they have quit smoking for good, then work on reducing weight gain. Nicotine gum may delay weight gain.

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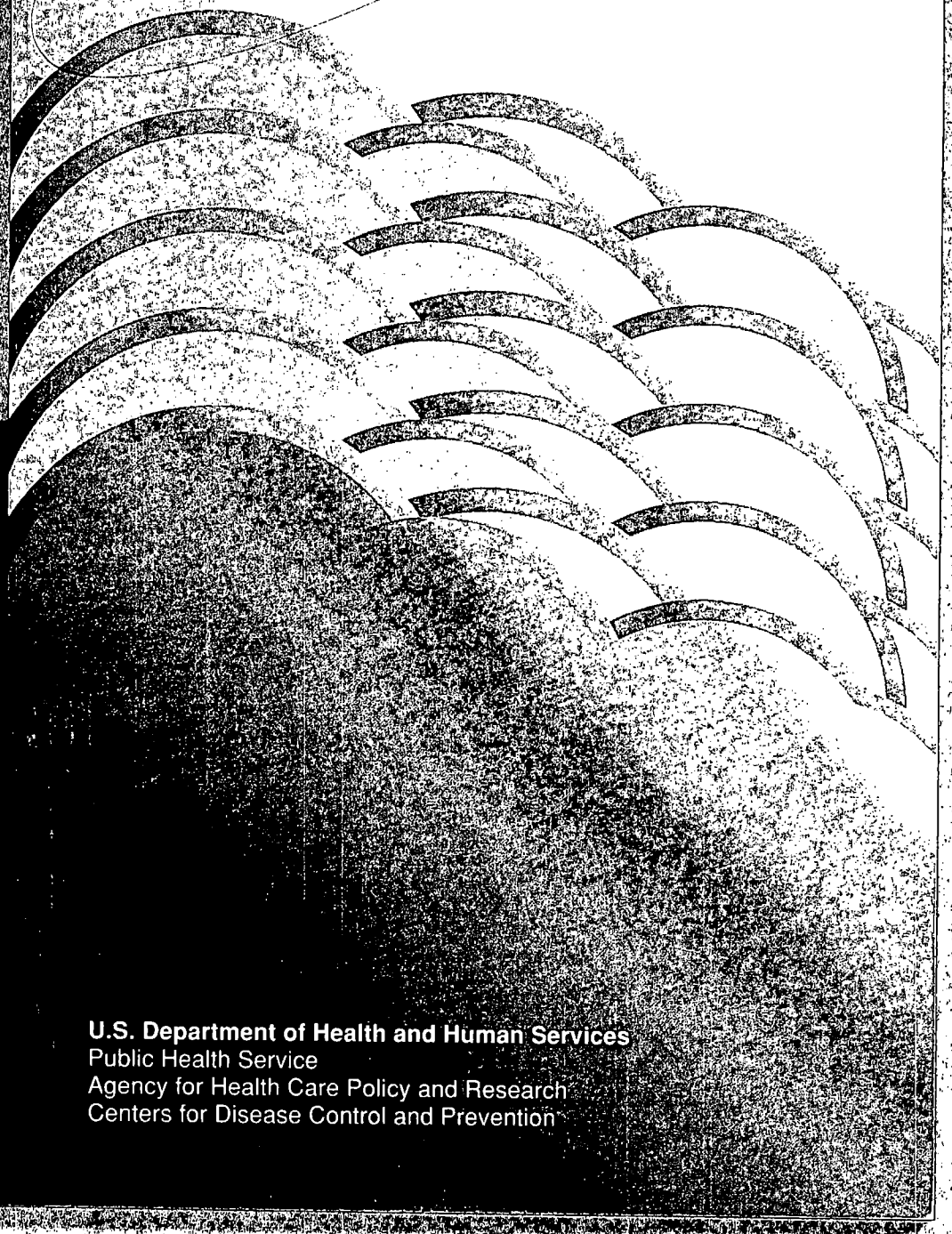
Clinical Practice Guideline

Number 18

Smoking Cessation



Clinical Practice Guideline

Smoking Cessation

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