

S K Hammond,

School of Public Health, University of California,  
Berkeley, California, USA

Correspondence to: Manel Nebot, Institut Municipal  
de Salut Pública, Plaça Lesseps 1, 08023  
Barcelona, Spain; mnebot@imsb.bcn.es/  
bexsa@readyssoft.es

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### A smoking cessation telephone resource: feasibility and preliminary evidence on the effect on health care provider adherence to smoking cessation guidelines

Physicians have frequent opportunities to intervene with their smoking patients as approximately 70% of smokers see a physician each year.<sup>1</sup> Even brief counselling by a physician significantly improves the rate of smoking cessation according to meta-analyses performed by the Tobacco Use and Dependence Guideline Panel and summarised as “ask, advise, assist, and arrange follow-up” in the Agency for Health Care Policy and Research (AHCPR) guidelines.<sup>2</sup> Despite these evidence based recommendations, physicians identify only about half of current smokers, advise less than half, and assist and arrange follow up with a small minority.<sup>3</sup> There are several explanations for this disparity between physicians’ knowledge and their actual behaviour including inadequate training, resource and time constraints, and lack of information on community cessation resources.

Office systems that screen patients for smoking status increase the rate of smoking

**Table 1** Adherence of health care providers to smoking cessation interventions

Intervention	Baseline (n=54)	Post-implementation (n=111)	Relative risk Post-implementation v baseline (95% CI)
Asked	37 (69%)	71 (64%)	0.9 (0.7 to 1.2)
Advised to quit	29 (55%)*	65 (59%)	1.1 (0.8 to 1.4)
Quit date discussed	5 (9%)	14 (13%)	1.4 (0.5 to 3.6)
Assistance offered	14 (26%)	46 (41%)†	1.6 (1.0 to 2.6)
Follow up arranged	9 (17%)	38 (34%)‡	2.1 (1.1 to 3.9)

\*One subject’s data missing for this item, n=53.

†p=0.052 versus baseline.

‡p<0.02 versus baseline.

CI, confidence interval

cessation interventions by health care providers.<sup>4</sup> We hypothesised that providers would be more likely to adhere to the AHCPR guidelines if they could delegate the time consuming steps of *assistance* and *follow up* to a telephone cessation resource.

This pilot study assessed the feasibility of a central telephone smoking cessation resource that would proactively call smokers who gave their provider consent for referral. We also evaluated whether providers would be then more likely to adhere to the smoking cessation guidelines. In a quasi-experimental pre-test, post-test design, a sample of patients seen for any type of visit with a provider in three participating primary care clinics in Vermont were interviewed at exit from the clinic. Only current smokers were asked about their providers’ adherence to guidelines. The primary outcome measure was the proportion of current smokers who reported being asked, advised, assisted, and having follow up arranged at baseline and four months after implementation of the resource.

Two hundred and nine patients were referred to the resource from the three clinics over the four month duration of resource availability. We estimated that this represented 20% of the total number of smokers seen at the clinics during this time period. We interviewed 54 smokers at baseline and 111 smokers four months after implementation. After the intervention, rates of asking and advising about smoking were not significantly changed from baseline (table 1). The increase in the proportion of smokers who were offered assistance did not reach significance (p = 0.052). There was a significant increase in those who had follow-up arranged (table 1).

Our study demonstrates that a smoking cessation proactive telephone resource is feasible and that providers will refer patients to such a resource. The resource had a contact rate of only 52% of referred current smokers, which we attribute to the resource not having evening calling hours, a significant limitation. Implementation of this proactive smoking cessation telephone resource was associated with improved arrangement of follow up. These preliminary data suggest that further studies of the effect of referral resources on adherence of physicians to guidelines are warranted. Because of the non-randomised design of this pilot study, we cannot attribute improvements in provider adherence solely to the availability of the telephone resource, as provider focus groups, surveys, and training also may have increased adherence to the guidelines. Only a randomised study can address this issue.

T W Marcy

National Cancer Institute, Division of Cancer Prevention, Office of Preventive Oncology, Rockville, Maryland; Office of Health Promotion Research, University of Vermont College of Medicine, Burlington, Vermont; Vermont Cancer Center, University of Vermont, Vermont USA  
twmarcy@together.net

L J Solomon

Vermont Cancer Center, and Department of Psychology, University of Vermont

G S Dana, R Secker-Walker

Office of Health Promotion Research, University of Vermont College of Medicine, Burlington, and Vermont Cancer Center, University of Vermont

J M Skelly

Biometry Facility, University of Vermont

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### Ophthalmologists’ and optometrists’ attitudes and behaviours regarding tobacco cessation intervention

Although health care providers can be effective in motivating and helping patients to quit their tobacco use,<sup>1–7</sup> the potential role of eye care professionals has been under recognised. Several chronic ocular diseases are associated with smoking,<sup>8</sup> including formation of cataracts and age related macular degeneration (a leading cause of blindness).<sup>8,9</sup> As a cardiovascular risk factor, smoking may also play a role in the development of anterior ischaemic optic neuropathy.<sup>10</sup> In addition, smoking may increase the risk of ocular disease from other disorders, such as diabetes, the main cause of blindness in persons 20–74 years of age.<sup>11</sup>

**Table 1** Eye care professionals' attitudes, beliefs, and perceived barriers regarding intervention with tobacco using patients

	Ophthalmologists (n=422) (%)	Optometrists (n=629) (%)
Demographics		
Years in practice	23 (SD 11.33)	16 (SD 11.23)
Sex	85% male	72% male
Tobacco related behaviours: "How often do you . . ."		
Ask patients about tobacco use?	71	38
Sometimes advise patients to quit tobacco?	91	81
Regularly advise patients to quit tobacco?	30	16
Provide educational materials on the ocular effects of tobacco use?	5	6
Barriers to intervening with smokers		
Lack of time	83	70
Lack of patient materials	67	79
Lack of training	64	78
Lack of referral resources	63	76
Concerns about effectiveness	63	69
Concerns about patient resistance or loss	61	72
Lack of reimbursement mechanism	57	52
Concerns about office staff resistance	32	40
Attitudes about intervening with smokers		
Believe it is appropriate for them to document patients' tobacco use	81	69
Believe it is appropriate for them to advise patients to quit tobacco	82	71
Interested in learning new ways to help patients quit tobacco	74	80

Before developing a tobacco cessation intervention for eye care professionals, it is essential to assess the current status of tobacco cessation activities in routine eye care. We sent a 12 item questionnaire to all currently licensed ophthalmologists (n = 1209) and a random sample of 1234 optometrists in four western states of the USA (Arizona, California, Oregon, and Washington), assessing demographics and behaviours, attitudes, and barriers regarding intervention with tobacco using patients. The final return rate was 39% for ophthalmologists and 53% for optometrists. Data are presented only for those in current practice (90% of the ophthalmologists and 95% of the optometrists). Since ophthalmologists were significantly less likely to return the survey ( $\chi^2$  (1, n = 2443) = 48.56,  $p < 0.001$ ) than optometrists, we report data for each professional group separately without comparing the two.

As table 1 indicates, both ophthalmologists and optometrists feel it is appropriate to help tobacco using patients with cessation, though few do so regularly and many barriers are perceived. Optometrists employing support staff were more likely to express positive attitudes towards providing tobacco interventions than those who did not ( $t(634) = 2.55$ ,  $p < 0.05$ ), suggesting a correlation between time constraints and attitude toward intervention.

Both ophthalmologists and optometrists cited many barriers to intervening with their tobacco using patients. Lack of time was most commonly cited by ophthalmologists, whereas optometrists were more concerned about lack of patient materials and lack of training. How recently they trained and their sex were related to barriers. Ophthalmologists

and optometrists who had graduated more recently from their programmes perceived fewer barriers to providing cessation services ( $r = 0.18$ ,  $p < 0.01$  for ophthalmologists;  $r = 0.16$ ,  $p < 0.01$  for optometrists). Previous studies<sup>1,2</sup> have shown a reduction in perception of barriers due to receiving education in tobacco cessation intervention.

Surprisingly, female ophthalmologists were less likely to believe they should advise patients to quit ( $t(381) = 2.16$ ,  $p < 0.05$ ), and both female ophthalmologists and optometrists perceived more barriers to doing so ( $t(365) = -2.54$ ,  $p < 0.05$  for ophthalmologists,  $t(586) = -2.93$ ,  $p < 0.01$  for optometrists). This reluctance may be due to female eye care providers' concerns about possible negative patient reactions, or fears of losing patients from their practices.

Although this is a convenience sample, our results suggest the feasibility of brief, office based tobacco cessation interventions for use in eye care settings. An intervention must, however, focus on reducing perceived barriers by training eye care professionals in providing an effective, brief intervention that is readily received by patients, as well as providing resources and materials to practitioners. Our data suggest that cooperative agreements with insurance companies to provide reimbursement to providers would facilitate the adoption of the intervention.

As summarised by the Clinical Practice Guidelines,<sup>2</sup> many types of general and specialist providers have successfully incorporated tobacco cessation activities into their practices. One way to extend the reach of tobacco cessation interventions is to utilise other medical specialists to motivate tobacco users to quit. Ophthalmology and optometry

may provide such an opportunity, given the role of smoking in ocular disease, the fact that most visits are for routine rather than acute care, and the presence of support staff who can help implement an intervention.

**J S Gordon**  
**J A Andrews**  
**E Lichtenstein**  
**H H Severson**  
**L Akers**  
**C Williams**

Oregon Research Institute, 1715 Franklin Boulevard, Eugene, Oregon 97403, USA

Correspondence to: Dr Judith Gordon; [judith@ori.org](mailto:judith@ori.org)

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## CORRECTION

The authors of Health impact of "reduced yield" cigarettes: a critical assessment of the epidemiological evidence (*Tobacco Control* 2001;10(suppl 1):i4-i11) would like to correct a statement in figure 1. The legend to figure 1 and the corresponding text on page 15 should say "Each milligram decrease in machine measured nicotine..." rather than "Each milligram decrease in machine measured tar...".