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Health Care Provider Use of Guideline-Based Smoking Cessation Interventions: Results from the 2003 Wisconsin Tobacco Survey

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ABSTRACT

Tobacco use is the chief preventable cause of morbidity and mortality in the United States. In Wisconsin, approximately 7300 deaths—representing about 20% of all deaths within our state each year—are attributable to smoking. Nearly half of the estimated 815,000 adult smokers in Wisconsin make a quit attempt each year, but most smokers make unaided quit attempts that have a very low probability of success (< 5%). The 2000 Public Health Service Clinical Practice Guideline, "Treating Tobacco Use and Dependence," provides recommendations for evidence-based treatments (e.g., counseling, FDA-approved cessation medications) for smoking cessation that can result in long-term abstinence rates of up to 25% or more. The current study provides results from the 2003 Wisconsin Tobacco Survey on the extent to which Wisconsin health care professionals are using Guideline-based interventions to identify smokers and assist them to quit smoking. Results show that in 2003 about 77% of current smokers were asked about tobacco use and about 61% were advised to quit. Rates of cessation assistance ranged from 6% to 22%. Increases in smoking cessation interventions by health care professionals have enormous potential to decrease the smoking prevalence rate and improve the health of Wisconsin smokers.

INTRODUCTION

Tobacco use is the chief preventable cause of morbidity and mortality in the United States.[1-3] In Wisconsin, approximately 7300 deaths—representing about 20% of all deaths within our state—are attributable to smoking.[4] Smoking also contributes significantly to the development of serious chronic illnesses such as chronic bronchitis, emphysema, heart attacks, strokes, and lung cancer.[5] Approximately 20%, or about 815,000 of Wisconsin adults currently smoke.[6] Quitting smoking can result in substantial health benefits, especially if undertaken earlier in life.[7] About 82% of adult current smokers in Wisconsin report having seriously tried to quit smoking at least once during their lifetime and nearly half attempt to quit smoking each year.[6] However, most smokers who make a quit attempt relapse within a matter of weeks or months[6] and long-term success rates for unaided quit attempts (e.g., without cessation medications or counseling) are typically less than 5%.[8]

The 2000 Public Health Service Clinical Practice Guideline, "Treating Tobacco Use and Dependence"[9] provides recommendations for evidence-based treatments for smoking cessation that can result in long-term abstinence rates of up to 25% or more. These treatments include FDA-approved cessation medications (e.g., bupropion SR and nicotine replacement medications) and counseling approaches that greatly improve on the limited success of unaided ('cold turkey') quit attempts. In Wisconsin, results from the 2003 Wisconsin Tobacco Survey showed that approximately 80% of smokers made unaided quit attempts.[6] Thus, a central challenge to reducing the prevalence of tobacco use is to increase the availability and use of evidence-based treatments among the estimated 375,000 Wisconsin smokers who try to quit smoking each year. Such a decrease in tobacco use prevalence will eventually lead to decreases in tobacco-related morbidity and mortality.

The Public Health Service Guideline also provided recommendations about specific actions that health care professionals (e.g., physicians, nurse practitioners,

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etc.) should take to increase quit attempts and successful cessation. Specifically, the Guideline recommended that health care professionals (HCPs) ask all patients at each visit about tobacco use. For patients who smoke, the Guideline recommended that HCPs advise smokers to quit and, for smokers willing to make a quit attempt, HCPs should provide assistance such as cessation medications and referral for counseling. Guideline-based cessation interventions in primary care clinics have been shown to significantly increase abstinence rates.[10]

The purpose of this article is to characterize the extent to which Wisconsin HCPs are identifying smokers and assisting their cessation efforts. Results are based on data from the 2003 Wisconsin Tobacco Survey of 8111 Wisconsin adults.

METHODS

Survey Description

The 2003 Wisconsin Tobacco Survey (WTS) was a population-based phone survey developed by the University of Wisconsin Center for Tobacco Research and Intervention (UW-CTRI), the University of Wisconsin Comprehensive Cancer Center (UWCCC), and the Wisconsin Department of Health and Family Services. A total of 8111 adult Wisconsin residents were interviewed from June 2003 through February 2004 about patterns of tobacco use and cessation, attitudes and beliefs about tobacco-related policy and other issues, and the impact of tobacco control media campaigns. The survey was conducted by the University of Wisconsin Survey Center.

The respondent selection procedure for the 2003 WTS was the same as the procedure used in the Wisconsin Behavioral Risk Factor Surveillance Survey (BRFSS).[10] As such, the 2003 WTS was designed to be a representative sample of adult Wisconsin residents. The majority of WTS respondents were white (n=6904; 86% of sample); non-white respondents included 751 African Americans (9% of sample), 63 American Indians/Alaska Natives (1%), 145 Hispanic respondents (2%), and 165 other, non-Hispanic respondents (2%). Eighty-three respondents declined to provide race/ethnicity.

For the purposes of this study, the Council of American Survey Research Organizations (CASRO) methodology was used to calculate the response rate.[11] The CASRO response rate adjusts for the presence of households of unknown eligibility in the total sample of 24,220 phone numbers called by the UW Survey Center. A total of 8111 respondents completed the interview, 3787 potential respondents refused participation, 686 potential participants in eligible households were unavailable to be interviewed, 6595 phone numbers were non-working or were not in a household (e.g., a business), and 5041 households were of unknown eligibility, resulting in a CASRO-adjusted response rate of 51%. Data from 63 respondents were deleted from the final dataset due to inconsistencies in their responses to the tobacco use questions. A total of 8048 valid surveys were included in the final dataset for analysis.

Classification of Respondents

The survey identified 3 main groups: current cigarette smokers, former cigarette smokers, and never smokers. A current smoker was defined as someone who had smoked at least 100 cigarettes during his or her lifetime and who reported smoking every day or some days at the time of the WTS interview. A former smoker was defined as someone who had smoked at least 100 cigarettes in his or her lifetime and who reported no smoking at the time of the WTS interview. A never smoker was defined as someone who reported never having smoked more than 100 cigarettes. Among the 8048 respondents with valid surveys, 1544 were current smokers, 2222 were former smokers, and 4282 were never smokers. The current study includes only current smokers.

Health Care Provider Cessation Interventions

Smokers who had made a health care visit to an HCP in the 12 months prior to the WTS interview were asked if their HCP asked about tobacco use during their last health care visit. In addition, these smokers were asked a series of questions regarding HCP advice to quit, encouragement to set a quit date, prescription for or recommendation to use cessation medications, referral to a cessation program, and referral to the Wisconsin Tobacco Quit Line.

Statistical Analyses

Statistical analyses were conducted using SAS statistical software (SAS Institute Inc., Cary, NC, 2001, Version 8.2). Where appropriate, the SAS procedure "PROC SURVEYMEANS" was used to incorporate sample weights into the calculation of prevalence and other estimates to represent the population in Wisconsin. Differences between estimates were considered statistically significant if 95% confidence intervals were not overlapping.

RESULTS

Table 1 presents percentages of current smokers reporting that their HCP engaged in cessation interventions recommended by the 2000 Public Health Service Clinical Practice Guideline.[9] Overall, 3 out of 4 smokers reported being asked about tobacco use and 61% reported being advised to quit smoking. Female smokers were more likely to be advised to quit smoking than male smokers. As shown in Table 1, rates of other cessation interventions such as setting a quit date, medications, and referral to cessation programs were quite low, with percentages ranging from 6% to 22% with no significant gender dif-

Table 1. Health Care Professional (HCP) Cessation Interventions by Gender and Overall – Current Smokers

Guideline-Based Cessation Interventions	Female (n=780)	Male (n=483)	Overall (n=1263)
HCP asking about tobacco use	78%	76%	77%
HCP advising smoker to quit	67%*	55%*	61%
HCP encouragement to set a quit date	18%	15%	17%
HCP cessation medication prescription or recommendation	22%	17%	20%
HCP referral to cessation program	17%	14%	16%
HCP referral to the WI Tobacco Quit Line	8%	6%	7%

* 95% confidence intervals are non-overlapping

Table 2. Health Care Professional (HCP) Cessation Interventions By Disease Status – Current Smokers

Guideline-Based Cessation Interventions	No Chronic or Serious Disease (n=785)	Chronic or Serious Disease (n=478)
HCP asking about tobacco use	76%	76%
HCP advising smoker to quit	53%*	77%*
HCP encouragement to set a quit date	13%*	24%*
HCP cessation medication prescription or recommendation	16%*	29%*
HCP referral to a cessation program	13%	20%
HCP referral to the WI Tobacco Quit Line	6%	10%

* 95% confidence intervals are non-overlapping

ferences. Additional analyses of HCP cessation interventions by race/ethnicity, income, and urban/rural location showed no group differences by these demographic factors.

Analyses of HCP cessation interventions by age groups (18-24 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years, and 65+ years) showed no group differences, but inspection of rates suggested that the youngest adult smokers (18-24 years old) may differ from most other age groups. Additional analyses that compared the 18- to 24-year-old smokers to smokers 25 years and older showed statistically significantly lower rates of medication prescription/recommendation in the youngest smoker group (8% vs 23%, respectively) and lower rates of referral to cessation programs (8% vs 18%, respectively). In addition, the smokers in the youngest group were less likely than the smokers age 25 and older to report being advised to quit smoking (52% vs 64%, respectively), although the confidence intervals for these 2 rates overlapped (41%-63% vs 60%-67%).

We also examined HCP cessation interventions in relation to the self-reported chronic disease status of WTS respondents. More specifically, respondents with chronic or serious diseases such as diabetes, hypertension, coronary artery disease, emphysema, lung cancer, chronic bronchitis, or asthma were compared to respondents who did not report having any of these conditions. Thus, we examined whether or not smokers with chronic or serious health conditions would be more likely to report that HCPs provided cessation interventions due to the greater urgency for quitting. As shown in Table 2, HCPs were more likely to advise respondents with chronic or serious diseases to quit smoking (77% vs 53% for smokers lacking chronic or serious diseases), and were more likely to encourage setting of a quit date (24% vs 13%, respectively) and to prescribe/recommend cessation medications (29% vs 16%, respectively).

DISCUSSION

Data from the 2003 WTS show that Wisconsin health care professionals routinely ask about 77% of current smokers about tobacco use. This rate is similar to a rate of tobacco use identification in Minnesota (79%) in 2002[12] but, to be consistent with the recommendations of the 2000 Public Health Service Guideline,[9] a higher percentage of HCPs should be asking their patients about tobacco use. In addition, Wisconsin HCPs' 61% rate of advising smokers to quit in 2003 is somewhat lower than the national median of 72% reported in 2002 from the BRFSS.[13] In contrast to these current results for advice to quit smoking, an earlier report by Marbella and colleagues, based on 1998-1999 Current Population Survey (CPS) data and 2000 BRFSS data, showed an opposite pattern with Wisconsin rates exceeding national rates.[14] In fact, the current estimate of 61% of HCPs advising smokers to quit from the 2003 WTS is very similar to the 1998-1999 CPS rate of 64% and the 2000 BRFSS rate of 56%, suggesting little or no progress in Wisconsin in increasing the rate of HCP advice to quit.

The current study also shows that Wisconsin HCPs are less likely to intervene with smokers 18-24 years old and with smokers who lack chronic or serious health conditions. Interestingly, the percentage of 18-24 year olds who smoke who report making a quit attempt in the last year is higher (59%) than all other age groups (47% in 25-44 year olds; 39% in 45-64 year olds; and 38% in smokers 65+ years).[6] Thus, younger smokers appear to be motivated to quit and clinicians should make special efforts to help them quit. However, all smokers, regardless of age or medical condition, should be asked about tobacco use, advised to quit smoking, and offered assistance to quit. Research shows that smokers

are receptive to cessation interventions provided during medical office visits[15] and health care systems increasingly are recognizing the health and economic benefits of cessation interventions.[16]

With nearly 1 out of every 2 current smokers at risk of dying prematurely of a disease caused by cigarette smoking, the results from the 2003 WTS present a clear and urgent call to action. Four out of 5 adult current smokers in Wisconsin report having seriously tried to quit smoking at least once during their lifetime and 46% actively tried to quit smoking during the preceding 12 months.[6] Although 75% of current smokers in Wisconsin report they would like to completely quit smoking, only 16% try to quit by using evidence-based medications and only 2% use cessation counseling.[6] These findings indicate significant underutilization of cessation treatments that hold the most promise for helping them achieve abstinence. Efforts to encourage greater use of evidence-based cessation treatments by physicians and other health care professionals should be a high priority in Wisconsin.

Although the current study has several strengths, there are a few methodological limitations that qualify the findings. For example, we ascertained provider behavior at the last health care visit but we did not collect information on either the nature of the visit (e.g., preventive care, urgent illness, injury, etc.) or the type of clinician involved in the visit. Thus, it is possible that some of our estimates of provider advising or intervening may be underestimates given that some health care visits may not be conducive to such interventions (e.g., during an emergency room visit to receive treatment for a fracture). In addition, it is possible that some providers (e.g., optometrists) may not be able to provide cessation treatments and this may have lowered the estimates for provision of cessation medications and other treatments. Other limitations include the possibility of retrospective recall errors or bias especially given that some respondents were attempting to recall provider behavior that may have occurred up to 12 months prior to the survey.

The findings of the 2003 WTS suggest the following recommendations:

- Private and public health insurers should make evidence-based treatments readily available to all smokers and provide these treatments to any smoker willing to quit.
- Smokers and health care professionals should become more educated about the benefits of using evidence-based interventions (e.g., FDA-approved medications and counseling) when trying to quit smoking.[9]
- Health care systems should implement policy changes to encourage increased use of evidence-based cessation interventions by health care professionals.
- State and private health organizations should encourage use of the Wisconsin Tobacco Quit Line (877.270.STOP) that provides free cessation assistance to all Wisconsin citizens.

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