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# Sale of Tobacco Products in Pharmacies: Results and Implications of an Empirical Study

John P. Bentley, Benjamin F. Banahan III, David J. McCaffrey III, Dewey D. Garner, and Mickey C. Smith

**Objective:** To provide national-level data concerning the percentage of pharmacies selling tobacco products, examine relationships between selling practices and pharmacy characteristic variables, and explore perceptions of conflicts between tobacco-selling activity and professional and personal values and the potential effects of such conflicts. **Design, Setting, Participants:** Data were collected from a geographically stratified systematic random sample of 899 pharmacies. Multiple mailings were sent to the attention of the pharmacy manager. A random sample of nonrespondents was also contacted by telephone, urging participation. **Main Outcome Measures:** Whether the pharmacy currently sold cigarettes and/or smokeless tobacco products, and if so, whether these practices differed from what respondents' personal or professional values tell them to do. Scales designed to measure job satisfaction, job-induced tension, and propensity to leave were also included. **Results:** Slightly more than half (50.5%) of the pharmacies sold cigarettes and 35.4% sold smokeless tobacco products. Independents were less likely than chain pharmacies to sell tobacco products. For those respondents working in pharmacies where tobacco products were sold, 47.6% responded that this practice differs from what their personal values tell them to do and 63.9% replied that this practice differs from what their professional values tell them to do. Even when controlling for pharmacy type, respondents working in pharmacies that sold tobacco products had significantly lower levels of global job satisfaction, higher levels of job-induced tension, and a higher propensity to leave than did respondents working in pharmacies that did not. **Conclusion:** Decision makers in pharmacies where tobacco products are still sold should take a serious look at the justification for the continued availability of tobacco products in an environment that has a goal of promoting health.

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There is little question that cigarettes and other forms of tobacco represent serious health hazards. After years of denial, a tobacco company recently acknowledged that nicotine is addictive

and admitted that mainstream cigarette smoking can cause a variety of health problems.<sup>1</sup> Cigarette smoking has been designated the single most preventable cause of premature death in the United States.<sup>2</sup> Estimates suggest that more than 400,000 deaths in this country (approximately 20% of all deaths) were attributed to smoking in 1990.<sup>3</sup> Cigarette smoking also imposes a significant economic burden. Smoking-attributable costs for medical care in 1993 have been estimated at \$50 billion.<sup>4</sup>

Smokeless tobacco use is not without negative health consequences. Oral cancer occurs several times more frequently among smokeless tobacco users than among nonusers, and the use of smokeless tobacco can support nicotine dependence and may lead to smoking.<sup>5</sup>

Although progress has been made in reducing the prevalence of tobacco use,<sup>6,7</sup> to achieve tobacco-related national health objectives by the year 2000,<sup>5</sup> a significant decrease is still required. As an example, the 1994 estimate for cigarette smoking prevalence in the adult population was 25.5%, yet the national health objective is a rate of no more than 15% by 2000.<sup>8</sup>

Pharmacists, physicians, and other health care professionals play an important role in the prevention and cessation of tobacco use. However, there is evidence that health care professionals

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"are not yet maximizing their opportunities to counsel their patients who smoke to quit."<sup>9</sup>

By virtue of their accessibility to patients, pharmacists are in an ideal position to "help people avoid initiating the smoking habit or quit smoking."<sup>10</sup> By becoming involved in efforts to meet tobacco-related national health goals, pharmacists can demonstrate their contributions to primary and preventive care, both immediate and potential.<sup>11</sup> In particular, as a suitable starting point, pharmacists are well positioned to affect the availability and sale of tobacco products in pharmacies. This issue has received a considerable amount of attention and debate, but little information is available concerning the prevalence of tobacco product sales in pharmacies at the national level.

## Objectives

The objectives of this study were to gather national-level data concerning the percentage of pharmacies selling tobacco products, while also examining relationships between selling practices and pharmacy characteristic variables, and exploring perceptions of conflicts between tobacco-selling activity and professional and personal values and the potential effects of such conflicts. This article presents the results of this study and also reviews past literature on the sale of tobacco products in retail pharmacies.

## Review of the Literature: Retail Pharmacy and Tobacco Products

Tobacco products are drug-containing products, and there are historical roots for their availability and sale in pharmacies.<sup>12</sup> Over the three decades since the Office of the Surgeon General announced the negative health consequences of smoking, a number of articles have addressed the sale of these products in pharmacies. The available literature can be divided into three streams, with some overlap.

First, editorials and news stories have focused on why pharmacies sell or do not sell (or should not sell) tobacco products. Many of these articles contain anecdotal reports and opinions of practitioners, researchers, and ethicists, while others summarize the arguments made by both sides.<sup>13-25</sup>

A second stream of literature examines the experiences and thought processes of pharmacy personnel as they made the decision to discontinue the sale of tobacco products.<sup>13,20,24,26-28</sup> This stream also describes state-level programs designed to provide pharmacists and pharmacies opportunities for involvement in efforts to decrease the use of tobacco, such as the Michigan Pharmacists Association's Tobacco-Free Pharmacy Campaign.<sup>29,30</sup>

The third stream uses survey research or other empirical methods, rather than anecdotal evidence, to investigate the sale of tobacco products in pharmacies. Research has focused on consumers, pharmacies, and pharmacists as the units of analysis. In

one consumer study, the sale of cigarettes in pharmacies was found to have a strong negative effect on nonsmoking respondents' attitudes toward retail pharmacists, on dimensions of professionalism, expertise, trustworthiness, and hypocrisy.<sup>31</sup> Smokers did not appear to react in the same manner.

A number of studies have surveyed pharmacies in order to evaluate the sale of tobacco products in pharmacies. In Mississippi, a 1989 survey of retail pharmacies found that 68% sold cigarettes and 52% sold smokeless tobacco.<sup>32</sup> Independents were less likely than chains to sell cigarettes (64% versus 78%) and smokeless tobacco (46% versus 69%). Respondents expressed moderate agreement that it was a conflict of interest to sell tobacco products, and this agreement was significantly higher among pharmacists working in stores that did not sell cigarettes.<sup>32</sup> In a 1992 study of Massachusetts pharmacies, only 5% (all independents) had a policy of not selling tobacco products.<sup>33</sup> Of those that did sell tobacco, 81% were willing to sell cigarettes to underage buyers. A 1995 study conducted by the Massachusetts Pharmacists Association (MPhA) found that 30% of independent pharmacies did not sell cigarettes.<sup>34</sup> The MPhA began a Tobacco-Free Pharmacy Campaign in May 1994.

Various studies have shown that most pharmacists consistently disapprove of the sale of tobacco products in pharmacies.

- In a 1985 survey of Mississippi pharmacists, the most important cue to urge pharmacies not to sell cigarettes was the pharmacist's assertion that such sales were contrary to his or her professional responsibility.<sup>35</sup>
- In a 1989 study of Georgia pharmacists, 74% of respondents strongly agreed or agreed that pharmacies should not sell cigarettes, and 73% strongly agreed or agreed that pharmacies should not sell smokeless tobacco.<sup>36</sup> In this study, employee pharmacists who sold tobacco products contrary to their personal convictions most frequently reported that higher management made this decision.<sup>36</sup>
- In a 1992 study of Minnesota pharmacists, 66% agreed that pharmacists should not sell tobacco products, and 92% strongly believed that pharmacies that sell tobacco products have a greater obligation to reduce minors' access to cigarettes.<sup>37</sup> As in the Georgia study, a frequently cited reason for the sale of tobacco products was that the decision had been made by higher management.
- In a 1992 study, 62% of the pharmacists surveyed responded that tobacco products should not be sold in pharmacies.<sup>38</sup>
- In a 1995 opinion poll, 73% of the pharmacists replied that pharmacies should stop selling cigarettes.<sup>39</sup>

This controversial subject has been explored in editorials, arguments, and anecdotal reports. While several authors have added significantly to the debate by including the results of empirical studies, there appears to be a lack of understanding concerning the sale of tobacco products in pharmacies from a national perspective. Given the increased focus on the tobacco industry in the media, the settlements concerning health care and other costs associated with tobacco use, and the implementation of several statewide tobacco-free pharmacy campaigns, it is expected that

more pharmacies will discontinue the sale of tobacco products. In addition, pharmacists employed by pharmacies that continue these sales may face increasing personal and professional conflicts, which may also hasten the removal of tobacco products from these settings. Baseline information at the national level concerning the percentage of pharmacies selling tobacco products should be useful in monitoring trends. This study was conducted to provide such information.

## Methods

This study was conducted as part of the 1996 National Survey of Community Pharmacy Management and Operational Practices. This survey was designed to provide information on a number of business-related topics, such as services offered, the use of various types of promotions, third party programs, competition, and the sale of tobacco and alcohol.

A geographically stratified systematic random sample of 899 pharmacies was selected from the *Hayes' 1996 Independent and Chain Drug Store Guide Database*.<sup>40</sup> All mailings were addressed to the attention of the pharmacy manager. In fall 1996 a prenotification letter was sent to pharmacy managers informing them that they would receive a questionnaire in the mail in one week. The letter explained the purpose of the study and asked pharmacies to complete the questionnaire when it arrived. The first mailing took place approximately one week following this letter. One week later, a reminder postcard was sent to all pharmacies in the sample urging participation and thanking those who had already responded. Four weeks after the first mailing, a second questionnaire was sent to all nonrespondents, and four weeks later a third questionnaire was sent. Following completion of the mailings, telephone calls were placed to a random sample of nonrespondents, urging participation. As an incentive, pharmacies were offered a summary report of the findings and told that \$1 would be donated to one of three charities for every response received.

Questionnaires were printed as booklets with return postage permits on the back cover. The tobacco and alcohol section included questions about whether the pharmacy currently sold cigarettes and/or smokeless tobacco products. If the pharmacy sold either product, the respondent was asked whether the store's policy of selling tobacco violates his or her *personal* values. Because the value system of a pharmacy practitioner is influenced by his or her membership in a profession (one characteristic of a profession is that it generates and enforces its own norms and standards<sup>41-43</sup>), the respondent was also asked whether the store's policy of selling tobacco products diverges from his or her *professional* values. Respondents were asked whether they personally used tobacco products. Another section contained scales designed to measure job satisfaction, job-induced tension, and propensity to leave one's job.

Data analysis consisted of two steps: (1) computing frequencies and percentages for categorical variables (e.g., whether tobacco

products are sold, whether this practice is contrary to personal and professional values); and (2) examining relationships and associations between tobacco-selling practices and pharmacy/respondent characteristic variables (e.g., Do independent pharmacies differ from chains with respect to tobacco selling practices? Do pharmacists who work in pharmacies that sell tobacco products experience less job satisfaction?).

Descriptive statistics (e.g., frequencies, percentages) were used to fulfill the first step of the analysis.  $\chi^2$  tests were used to assess the significance of the associations between tobacco-selling practices and pharmacy characteristic variables that were categorical (e.g., chain versus independent). Independent sample *t* tests were used to assess whether pharmacists working in pharmacies that sold tobacco products reported lower levels of job satisfaction, higher levels of job-induced tension, and a greater propensity to leave their jobs than did their counterparts in pharmacies that did not sell tobacco products. Despite the possibility of using directional hypotheses in certain tests, two-tailed tests were conducted in all instances because of the exploratory nature of the questions asked. The a priori level of significance was set at  $\alpha = .05$ .

## Results

### Response Rate and Profile of Demographics and Pharmacy Characteristics

In total, 293 usable responses were returned and 24 pharmacies were determined not to be in the sample (i.e., nondeliverable, out of business), yielding a usable response rate of 33.5%.

Two methods were used to assess the potential for nonresponse bias. One method was to compare responses with certain "known values of the population."<sup>44</sup> On the basis of reported population values,<sup>45</sup> there was no evidence that the distribution of the respondents was different from population values with respect to pharmacy type (whether the respondent was employed by an independent pharmacy, chain, discount/mass merchandiser pharmacy, or super-market). The other method used was the time trends extrapolation method. The assumption underlying this test is that late respondents are expected to be more similar to nonrespondents.<sup>44</sup> The first 10% and last 10% of responses ( $n = 29$ ) were coded to identify them. Pearson  $\chi^2$  tests were used to assess whether responses to pharmacy characteristic variables and questions concerning the sale of tobacco products were associated with group membership.

The two groups were compared on three pharmacy characteristic variables (type of pharmacy, prescription concentration, prescription volume) and three variables related to the sale of tobacco products (whether the pharmacy sells cigarettes, whether the pharmacy sells smokeless tobacco, whether the respondent uses tobacco products). The only significant association identified from the analysis ( $p < .05$ ) was that early respondents were more likely to be employed by independent pharmacies and late respondents were usually employed by chain pharmacies. However, results from the previous analysis revealed that the distribution of the respondents

**Table 1. Pharmacies' Tobacco-Selling Practices**

	% Pharmacies that Sell...	
	Cigarettes	Smokeless Tobacco
All pharmacies	50.5	35.4
Pharmacy type <sup>a</sup>		
Independent	33.1 <sup>b</sup>	11.5 <sup>b</sup>
Chain	67.1	58.2
Daily prescription volume		
Fewer than 120 prescriptions	48.4 <sup>c</sup>	28.6 <sup>d</sup>
120 or more prescriptions	53.6	41.7
Prescription concentration		
Less than 50% of total sales	63.0 <sup>b</sup>	52.2 <sup>b</sup>
51%–75% of total sales	68.4	46.8
76% or more of total sales	24.7	9.3

<sup>a</sup>Independent = Single store independents and multistore independents (two to three locations); chain = traditional drug store chains, discount store/mass merchandiser pharmacies, and supermarket pharmacies.

<sup>b</sup> $p \leq .001$

<sup>c</sup>Not significant.

<sup>d</sup>.01 <  $p \leq .05$

was not significantly different from the population with respect to pharmacy type. On the basis of these findings, nonresponse was not considered to present a significant bias in this study.

Approximately three-fourths (77.4%) of the respondents were men. Mean age was 43.6 years and 10.2% of the respondents reported that they currently used tobacco products. More than 90% were pharmacy managers or supervisors, with only 8.5% identifying themselves as staff pharmacists. More than one-third (36.4%) were pharmacy owners, with those remaining being classified as employees. Approximately one-half of the respondents worked in independent pharmacies (48.5%) (defined as operating three or fewer stores), while the other half worked in chain pharmacies: traditional drug store chains (28.7%), discount stores (7.5%), or supermarkets (15.4%). A majority of respondents (54.7%) worked in pharmacies that filled more than 120 prescriptions per day; mean number of prescriptions filled per day was 154 for the entire

**Table 2. Personal and Professional Value Conflicts Associated with Tobacco-Selling Practices by Tobacco Use Status**

	Currently Use Tobacco Products?	
	Yes (%)	No (%)
If your pharmacy sells tobacco products, does this policy differ from what your		
<i>personal</i> values tell you to do?		
Yes	5.9	53.1 <sup>a</sup>
<i>professional</i> values tell you to do?		
Yes	41.2	66.9 <sup>b</sup>

<sup>a</sup> $p \leq .001$

<sup>b</sup>.01 <  $p \leq .05$

sample. Respondents were split fairly evenly with respect to the percentage of their stores' sales volume represented by prescription sales: for 34.8% of the respondents, prescriptions accounted for less than 50% of the store's total sales; for 29.3% prescriptions accounted for 51% to 75% of total sales; and for 35.9% prescriptions accounted for more than 75% of total sales.

### Sale of Tobacco Products

As shown in Table 1, approximately one-half (50.5%) of the pharmacies surveyed sold cigarettes, and slightly more than one-third (35.4%) sold smokeless tobacco products. Consistent with previous studies, independents were less likely than chain pharmacies to sell tobacco products. It is also noteworthy that pharmacies that generated a greater share of their business from prescription drugs (greater prescription concentration) were less likely to sell tobacco products and higher volume pharmacies were more likely to sell smokeless tobacco products; these two results are supported by the finding that chain pharmacies were more likely than independents to sell tobacco products. No statistically significant association was found between personal tobacco use status and the sale of tobacco products.

As discussed in the literature review section, most survey research has found that, in general, pharmacists believe that tobacco products should not be sold in pharmacies and that there is a conflict of interest associated with such practices. Therefore, it was expected that respondents from pharmacies that sold tobacco products would likely report that this practice is contrary to their personal and professional values. Furthermore, because of the professional socialization process undergone by pharmacists, the healing nature of the pharmacy profession, and the ethical nature of the health professions, it was expected that a greater percentage of respondents would report that selling tobacco products conflicts with professional values than with personal values. For the most part, the data supported these expectations. For those respondents who worked in pharmacies that sold either cigarettes or smokeless tobacco products, approximately one-half (47.6%) responded that this practice differs from what their personal values tell them to do and approximately two-thirds (63.9%) replied that this practice is different from what their professional values tell them to do. As Table 2 shows, this judgment was significantly associated with respondents' tobacco use status, where tobacco users were much less likely to report that selling tobacco diverges from their personal and professional values.

To assess the effect of selling tobacco on job satisfaction, job-induced tension, and propensity to leave one's job, the questionnaire included three scales that have been reported in the management and marketing literature. Although these constructs have numerous antecedents and consequences, and can be affected by many different aspects of one's job and work environment, because of the ethical conflict experienced (whether personal or professional), it is worthwhile to explore whether the sale of tobacco products has any association with job-related constructs. Job satisfaction was measured using the Job in General (JIG) Scale, an 18-item

instrument designed to assess overall feelings about one's job.<sup>46</sup> As opposed to multifaceted measures of job satisfaction, the JIG scale is considered to be a global measure of job satisfaction, and previous results support its unidimensionality.<sup>46</sup> Respondents are asked whether 18 adjectives or short-phrase evaluative items apply to their work (yes, no, or undecided). A score of 3 is given to "yes" answers for positive items and "no" answers for negative items. A score of 1 is given to "yes" answers for negative items and "no" answers for positive items. "Undecided" responses receive a score of 2. Total scores can range from 18 to 54, where higher scores indicate a greater degree of satisfaction with one's job.

Job-induced tension was measured using the adaptation of House and Rizzo's<sup>47</sup> Job Induced Tension (JIT) Scale discussed by Netemeyer, Johnston, and Burton.<sup>48</sup> The scale is composed of 7 items measured on 5-point scales (1 = strongly disagree to 5 = strongly agree). The scores on the scale can range from 7 to 35, with higher scores indicating a greater degree of job-induced tension.

Propensity to leave was assessed using a scale developed by Netemeyer, Johnston, and Burton<sup>48</sup> based on the staying/leaving index of Bluedorn.<sup>49</sup> Each item assesses the respondent's intention to leave a company after a specified period of time (e.g., "How would you rate your chances of quitting your current job or selling your pharmacy in the next 3 months, 6 months, 1 year, 2 years?"). Each item is measured on a 7-point scale (1 = no chance of quitting/selling to 7 = very high probability of quitting/selling), and the scores can range from 4 to 28, with higher scores indicating a higher propensity to leave.

As Table 3 shows, respondents who worked in pharmacies that sold cigarettes or smokeless tobacco had significantly lower levels of global job satisfaction, significantly higher levels of job-induced tension, and a higher propensity to leave than did respondents who worked in pharmacies that did not sell tobacco products. One may argue that these differences are due to other factors, such as pharmacy type, rather than to the sale of tobacco products. For example, one may argue that because more independents are in the group that does not sell tobacco products and pharmacists working in these settings had higher levels of job satisfaction, lower levels of job-induced tension, and lower propensities to leave compared with chain pharmacists, any differences in these measures could result from differences in the underlying composition of the groups. For this reason, analyses were conducted on chain and independent pharmacies separately. Because of limitations in sample size (e.g., only 16 independent pharmacies reportedly sold smokeless tobacco), only the results from the analysis of chain pharmacies are reported (Table 4). This analysis produced results similar to those found when respondents from all practice settings were included.

## Discussion

After years of denial, a tobacco company has publicly recognized the health detriments from mainstream smoking and the

**Table 3. Job Satisfaction, Job-Induced Tension, and Propensity to Leave by Tobacco-Selling Practices**

	Pharmacy Sells Cigarettes?		Pharmacy Sells Smokeless Tobacco?	
	Yes	No	Yes	No
Job satisfaction <sup>a</sup>	44.4	47.5 <sup>b</sup>	43.5	47.2 <sup>b</sup>
Job-induced tension <sup>c</sup>	16.8	14.8 <sup>b</sup>	17.4	14.9 <sup>b</sup>
Propensity to leave <sup>d</sup>	9.1	7.6 <sup>e</sup>	9.4	7.8 <sup>e</sup>

<sup>a</sup>Assessed using the 18-item JIG Scale; scores range from 18 to 54, where a higher score indicates a greater degree of job satisfaction.

<sup>b</sup>.001 < *p* ≤ .01

<sup>c</sup>Assessed using the 7-item JIT Scale; scores range from 7 to 35, where a higher score indicates a greater degree of job induced tension.

<sup>d</sup>Assessed using a 4-item Propensity to Leave scale; scores range from 4 to 28, where a higher score indicates a greater probability of quitting or selling the business.

<sup>e</sup>.01 < *p* ≤ .05

addictive nature of nicotine.<sup>1</sup> Even before this admission, there appeared to be a trend for community pharmacy decision makers to acknowledge the apparent inconsistency in the sale of tobacco products in pharmacies and discontinue these sales. While comparable past national figures are not available, comparison of the results from this study with the state surveys cited earlier suggests that the percentage of pharmacies selling tobacco products is decreasing. This finding is consistent with anecdotal reports<sup>26</sup> and the establishment of statewide tobacco-free-pharmacy programs.

Findings from this study show that many pharmacists who work in pharmacies where tobacco products are available perceive this practice as contrary to their personal and professional values. Furthermore, the results indicate that respondents who work in pharmacies that sell tobacco products are significantly different from respondents who work in pharmacies that do not sell tobacco products on measures of job satisfaction, job-induced tension, and propensity to leave. It is not possible to conclude that the sale of tobacco products was the causative

**Table 4. Job Satisfaction, Job-Induced Tension, and Propensity to Leave by Tobacco-Selling Practices for Respondents Working in Chain Pharmacies**

	Pharmacy Sells Cigarettes?		Pharmacy Sells Smokeless Tobacco?	
	Yes	No	Yes	No
Job satisfaction <sup>a</sup>	42.7	46.8 <sup>b</sup>	42.4	46.3 <sup>b</sup>
Job-induced tension <sup>c</sup>	17.5	15.8 <sup>d</sup>	18.1	15.3 <sup>b</sup>
Propensity to leave <sup>e</sup>	9.4	7.3 <sup>f</sup>	9.6	7.6 <sup>f</sup>

<sup>a</sup>Assessed using the 18-item JIG Scale; scores range from 18 to 54, where a higher score indicates a greater degree of job satisfaction.

<sup>b</sup>.001 < *p* ≤ .01

<sup>c</sup>Assessed using the 7-item JIT Scale; scores range from 7 to 35, where a higher score indicates a greater degree of job-induced tension.

<sup>d</sup>Assessed using a 4-item Propensity to Leave scale; scores range from 4 to 28, where a higher score indicates a greater probability of quitting or selling the business.

<sup>e</sup>Not significant.

<sup>f</sup>.01 < *p* ≤ .05

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factor in producing the differences noted on these constructs. However, the availability of cigarettes may be indicative of other environmental factors that could be responsible for the observed differences. Additionally, the differences between respondents from pharmacies that sell tobacco products and those from pharmacies that do not sell them on these constructs were not of great magnitude; it is possible that these differences may not be statistically significant when several other variables are included in models attempting to predict job satisfaction, job-induced tension, or propensity to leave. Nevertheless, these findings do suggest that pharmacy environments in which the sale of tobacco products is condoned may adversely affect pharmacists' perceptions of the quality of their work lives.

Cigarettes remain available in more than one-half of the pharmacies in this country, and smokeless tobacco products are available in more than one-third. While the sale of tobacco products does create some degree of conflict with pharmacists' personal and professional values, it is surprising that the percentage reporting these conflicts is not higher. Additionally, the finding that chain pharmacies are more likely than independent pharmacies to sell tobacco products lends support to suggestions that chain employees often have no control over the decision to sell tobacco, and this decision is "a business decision made by business managers, often nonpharmacists."<sup>13</sup> These findings suggest that a nationwide goal of the discontinuation of the sale of tobacco products in all pharmacies, while worthwhile, may be difficult to attain.

However, this goal cannot be credibly pursued without addressing the arguments *for* the sale of tobacco products in pharmacies. One respondent remarked that "questions of this nature always upset me, because they usually come from people who have never had to make their living in the retail market." Considering the competitive nature of today's pharmacy marketplace, the profit potential of tobacco products cannot be dismissed out of hand, nor can the argument that some consumers expect to buy tobacco products in pharmacies. However, how long will the sale of tobacco products continue to add to the "bottom line" of the average community pharmacy? On the basis of findings from a consumer study, Sparkman and Scheibelhut<sup>31</sup> concluded: "Perceptions of tobacco products appear to be changing at a rapid rate. If the trend continues, in the future the mass-merchandising advantages of cigarettes can be expected to decrease to the point that their sale no longer makes economic sense for pharmacies."

An additional question is whether the sale of tobacco products actually harms pharmacy's prospects for other avenues of economic viability. John Cova of the Health Insurance Association of America has been quoted as saying that cigarette sales place pharmacies in a "socially awkward position. It's hard to believe pharmacists are sincere about health care, encouraging compliance and so forth, when they are selling tobacco."<sup>21</sup>

Another argument is that the availability of tobacco products in pharmacies leads to opportunities for the pharmacist to educate and counsel individuals about the dangers of tobacco use and to offer assistance to individuals in quitting their habits. These ser-

vices—so the argument goes—may not be available in other retail outlets where tobacco products are sold. However, this line of reasoning assumes that smoking cessation services cannot be provided in pharmacies where tobacco products are not available. As cigarette smoking can alter the pharmacokinetics and influence the therapeutic effectiveness of drugs, and because smoking is the underlying problem for many medical complaints, pharmacy patient records should include the use of tobacco products. Indeed, in describing the standardized documentation process known as the pharmacist's workup of drug therapy, Strand, Cipolle, and Morley suggest that "effective clinical reasoning requires that the pharmacist establish a strong database, including...general patient data such as...smoking/alcohol history."<sup>50</sup> All pharmacists, therefore, have the opportunity to interact with tobacco users, not just those working in pharmacies where tobacco products are available. A study by MPhA found that pharmacies that do not sell tobacco products reportedly counsel patients on tobacco cessation techniques more often than those pharmacies that sell tobacco.<sup>34</sup>

The data reported in this paper were collected before the Liggett settlement and the subsequent press coverage it generated. Future studies directed at determining the percentage of pharmacies selling tobacco products in the aftermath of this case, and as cultural attitudes toward the use and sale of tobacco products continue to change, would be interesting and worthwhile. However, such multiple cross-sectional studies would not allow one to make conclusions as to causation, and it is possible that the sample in the present study may be different from subsequent studies, making comparisons difficult. Nevertheless, future studies would give some indication whether community pharmacies are indeed removing tobacco products from their shelves.

## Limitations

Although efforts were made to increase the response rate, it is possible that there were differences between respondents and nonrespondents. Pharmacists from pharmacies that sell tobacco products may have been less likely to respond to the survey; thus the true percentage of pharmacies that sell tobacco products may have been underestimated. Still, the results of the tests we used to assess the potential for nonresponse bias support the absence of any significant bias in this investigation.

Another potential limitation was that data collection relied on self-report as to whether tobacco products were sold, rather than direct observations. Therefore, it is possible that some respondents replied that they did not sell tobacco products because this was perceived to be the socially desirable answer. Such a response would, again, lead to an underestimation of the percentage of pharmacies that sell tobacco products. However, the national scope of this study made an observational method impractical. Self-reporting of behaviors is fairly common in survey research and the potential bias associated with such methods should always be considered when interpreting the results.

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## Conclusion

Despite the apparent positive trends with respect to the availability of tobacco products in community pharmacies, cigarettes are still available in more than one-half of the pharmacies in this country and smokeless tobacco products are available in more than one-third, according to this research. Additionally, tobacco products are more likely to be available in pharmacies where the pharmacist is not necessarily the decision maker for that individual store. Furthermore, while many pharmacists who work in pharmacies where tobacco products are available perceive their sale as contrary to their personal and professional values, a rather large percentage of pharmacists working in these pharmacies seemingly do not experience such conflicts. Finally, findings from this study suggest that pharmacy environments in which the sale of tobacco products is condoned may adversely affect pharmacists' perceptions of the quality of their work lives.

Decision makers in pharmacies where tobacco products are still available should take a serious look at their justification for the availability of such products in an environment that has a goal of promoting health.

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