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Tobacco Industry Research on Smoking Cessation

Recapturing Young Adults and Other Recent Quitters

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BACKGROUND: **Smoking rates are declining in the United States, except for young adults (age 18 to 24). Few organized programs target smoking cessation specifically for young adults, except programs for pregnant women. In contrast, the tobacco industry has invested much time and money studying young adult smoking patterns. Some of these data are now available in documents released through litigation.**

OBJECTIVE: **Review tobacco industry marketing research on smoking cessation to guide new interventions and improve clinical practice, particularly to address young adult smokers' needs.**

METHODS: **Analysis of previously secret tobacco industry documents.**

RESULTS: **Compared to their share of the smoking population, young adult smokers have the highest spontaneous quitting rates. About 10% to 30% of smokers want to quit; light smokers and brand switchers are more likely to try. Tobacco companies attempted to deter quitting by developing products that appeared to be less addictive or more socially acceptable. Contrary to consumer expectations, "ultra low tar" cigarette smokers were actually less likely to quit.**

CONCLUSIONS: **Tobacco industry views of young adult quitting behavior contrast with clinical practice. Tobacco marketers concentrate on recapturing young quitters, while organized smoking cessation programs are primarily used by older smokers. As young people have both the greatest propensity to quit and the greatest potential benefits from smoking cessation, targeted programs for young adults are needed. Tobacco marketing data suggest that aspirational messages that decrease the social acceptability of smoking and support smoke-free environments resonate best with young adult smokers' motivations.**

KEY WORDS: **smoking; young adults; prevention and control; policy; marketing.**
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The 2000 National Health Interview Survey (NHIS) found substantial decreases in current smoking prevalence between 1993 and 2000 for all age groups except young adults (age 18 to 24).[1] Other surveys documented a 27.8% increase in college student smoking between 1993 and 1997, and even higher rates among young adults not in college.[2–4] Of the estimated 11.1 million young adult smokers in the United States in 2000,[5] 72.9% percent reported they wanted to quit and 52.5% abstained for at least 1 day.[1] With the exception of programs for pregnant women,[6,7] there are few cessation programs targeted explicitly at young adults in the published literature. In contrast, a major goal for the tobacco industry has been to sustain and extend young adult smoking.[8–10] These efforts included extensive research on quitting rates and quitters' motivations. We analyzed industry research on young adult quitters to find insights that might be used to increase smoking cessation in this population.

We found that as early as 1986, industry researchers found that, compared to the rest of the smoking population, the highest quitting rates are among young adult smokers. Many of the smokers most likely to quit, such as intermittent smokers or brand switchers, were also young. Tobacco companies attempted to recapture younger quitters by developing products that appeared to be less addictive or more socially acceptable. Young adult quitters are of great importance to the tobacco industry; they also present an unrecognized opportunity for physicians and health professionals to develop tailored smoking cessation programs.

METHODS

Document Searches

We searched tobacco industry document archives from the University of California, San Francisco (www.library.ucsf.edu/tobacco), the Legacy Tobacco Documents Library (www.legacy.library.ucsf.edu), tobacco industry documents internet sites (Phillip Morris, www.pmdocs.com; R.J. Reynolds, www.rjrtdocs.com; Lorillard, www.lorillarddocs.com), Tobacco Documents Online (www.tobaccodocuments.org), and the Minnesota Select Set (outside.cdc.gov:8080/BASIS/ncctld/web/mnimages).

Searches were conducted between December 2000 and July 2002. Initial search terms were related to cessation, such as *quit*, *quitters*, *quitting*, and *cessation*, and to identify research, such as *study*, *research*, or *marketing report*. Initial searches yielded thousands of documents; those with content relating to young adults and smoking cessation were selected. Searches were repeated and focused using standard techniques.[11] Further searches for contextual information on relevant documents were conducted using names, project titles, locations, dates, and reference (Bates) numbers. This analysis is based on a final collection of approximately 150 research reports, questionnaires,

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memoranda, and plans. We sought to include any tobacco industry research on quitting smoking that tobacco companies proposed, funded, completed, and used to guide their marketing plans. The studies identified appeared to meet industry marketing research standards (such as conducting quantitative telephone surveys on national samples of smokers representative of the cigarette market). Documents were analyzed to identify principles and strategies that were replicated in several studies, particularly those duplicated by several tobacco companies.

Tobacco Industry Methods

Tobacco companies studied smoking cessation with both quantitative and qualitative studies. Although details of the methods were not always stated in the documents, most quantitative studies reported attempted to achieve nationally representative samples of adults using household telephone surveys. Some tobacco companies used commercially available national marketing data (such as Roper Reports[12]), hired marketing research subcontractors to conduct national surveys, or conducted their own tracking surveys (which were also designed to be representative of national markets). In contrast to the way health professionals calculate quit rates, tobacco industry researchers compared quitters to other smokers to see what characteristics distinguish the quitters. The data gathered by tobacco companies are often presented as indices standardized to average values for the smoking population: dividing the percentage of quitters by the percentage of smokers in each age category gives an index of quitting density among smokers in each age group.[13] In general, index numbers over 100 indicate segments with heavier than average density of quitters, while index numbers under 100 indicate segments with less than average. For example, if 15% of quitters were age 18 to 24, while only 10% of smokers were age 18 to 24, the index would be (0.15/0.10) $\times$ 100 = 150. Indices provide an estimate of the ease of accessing quitters when targeting different age groups.[13,14]

RESULTS

Young Adult Smokers Are Most Likely to Quit

Tobacco companies conducted regular quantitative tracking studies on smoking rates, brand usage, and the demographics of both smokers and people who reported they had quit smoking (quitters). Several quantitative tobacco industry studies pointed out that young adult smokers were the most likely to attempt to quit.[15–24] For example, Philip Morris's 1987 "Smoker Dynamics" report showed that although 32% of quitters (defined as respondents who reported they quit smoking in the past year and did not return to smoking) were age 35 to 54, and 20% of quitters were 18 to 24, the indices comparing quitters to the percentage of all smokers in each age group showed the highest relative quitting rate occurred among 18- to 24-year-olds (index 146), with even higher relative quitting among 18- to 21-year-olds (index 173). According to these data, the most efficient way to reach quitters would be to target 18- to 24-year-old smokers (particularly the 18- to 21-year-olds). The smokers who were next most likely to quit were those over 65 years old (index 125; Fig. 1).[17] Several other Philip Morris studies of quitters' demographics found that 18- to 24-year-olds were more likely to try quitting and more likely to quit successfully than older smokers.[15,16,18,25,26]

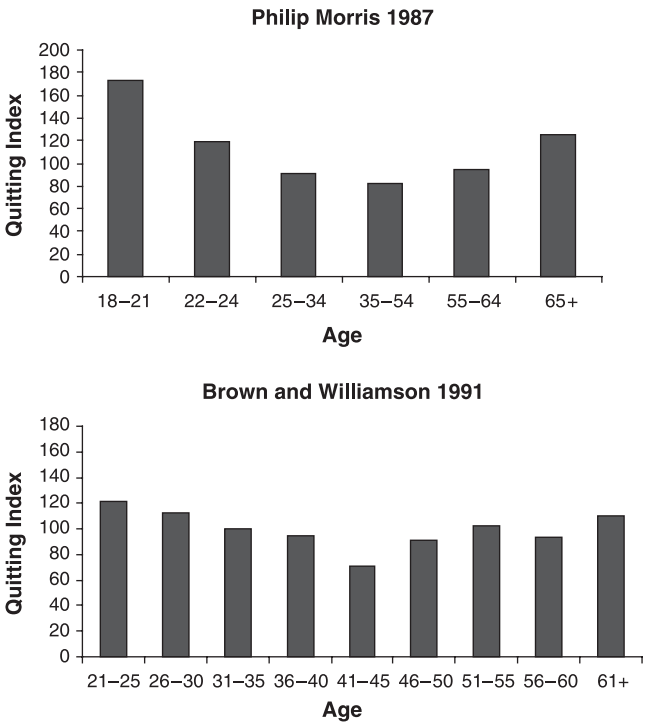

FIGURE 1. Quitting indices by age from tobacco industry documents.[15,29] The highest indices of quit attempts are by young adults.

Marketing reports from the R.J. Reynolds and Lorillard tobacco companies also found that quitters were more likely to be young.[19–22] Reports from Brown & Williamson's quantitative "brand switching studies" (which also tracked starters, quitters, and restarters) did not note that quitters (defined as ex-smokers who quit in the past 12 months) were disproportionately young. However, the data tables from these studies also show young adult quitters (age 21 to 25 in these studies) generally had higher indices than older age groups,[27–29] except for quitters over the age of 61.[27] The higher rates of quitting among younger smokers may have been less striking because they studied only adults age 21 and older (Fig. 1).

Tobacco industry studies noted other characteristics of quitters in addition to age; many were similar to young adult smokers in general. For example, in Philip Morris's 1987 quantitative Smoker Dynamics study, compared to other smokers, quitters (respondents who reported they quit in the past year and did not relapse) were more likely

to be light smokers (smoke fewer cigarettes), pack (rather than carton) buyers, convenience store shoppers, Marlboro smokers, and were more likely to use "two for one" deals.[17] Conclusions about the relationship between marriage status and quitting (in the past year) were inconsistent.[16,18] Not all characteristics of quitters were typical of younger smokers; quitters (in past 12 months) were also better educated and had higher incomes than smokers who did not quit.[16,17,30] In addition to education and income, sporadic reports noted some differences in quitting by race; for example, a 1980 Philip Morris report noted that black smokers reported they intended to quit more frequently, but actually quit less, and that Spanish-speaking smokers reported average intentions to quit, but more actual quitting.[18]

Potential Quitters: Smokers Who Want or Are Trying to Quit

Philip Morris's 1987 tracking study showed that about 10% of smokers (counted as total of current smokers and past year quitters) quit successfully in the past year.[17] The industry also identified subgroups of smokers that were likely to quit. Many of these groups contained disproportionately large numbers of young adult smokers. Philip Morris was interested in both quitters who might restart, and smokers who might quit.[31] Philip Morris quantitative studies in the mid-1980s divided smokers into different segments based on their attitudes about smoking, and named the segment with the most negative views "potential quitters" (28% of the smokers in the study).[32] The Potential Quitter segment was renamed "Guilt Laden" when these reports were edited and the study was repeated.[32,33] Potential quitters did not have positive attitudes about smoking or its image, they were embarrassed about smoking and uncomfortable smoking around nonsmokers, and they were admittedly trying to quit or cut down. They were disproportionately young, single, lower income smokers of Marlboro, Kent, Newport, or store brand cigarettes.[32]

Brown & Williamson identified 23% of smokers in a quantitative study as potential quitters (smokers who said they planned to stop smoking) and studied their intentions to stop smoking permanently in the future, quitting frequency and success, demographics, and brand usage. In these studies, potential quitters were more likely to be black, smoke less than 1 pack per day, and smoke nonmenthol and ultra-light cigarettes.[34] Quitter profiles could be used to develop products or advertising targeting potential quitters.[32,35]

Light, Casual, and Social Smokers

Intermittent smoking may be an intermediate stage between experimentation and addiction during smoking uptake, or it may reflect frequent quitting and restarting. Intermittent patterns and lower consumption are typical of young adult smokers. These smokers were called *light smokers*, *casual smokers*, or *social smokers* in industry documents. In this context, light smokers referred not to smokers of low tar brands such as Camel Lights, but those who smoked one half pack or less per day. R.J. Reynolds estimated light smokers accounted for about 10% of total cigarette volume, or 62.7 billion cigarettes sold in 1981, and they considered developing a new "light smoker's brand targeted to women smokers (particularly 18 to 24 age range)" at that time.[36] We did not find documents detailing the further development of this brand or its success.

R.J. Reynolds reports from 1999 qualitatively discuss the demographic characteristics and motivations of "part-time smokers" (who generally smoked 2 to 4 days per week and less than half a pack per day), and for whom "smoking is largely a social act that they share with their friends."[37] These part-time smokers were more likely to be young adults, black, Hispanic, or Asian.[37] Another study by Lorillard in 1988 compared "light smokers" (10 or fewer cigarettes per day) to smokers of 10 or more cigarettes per day. The light smoker group contained a higher percentage of young adults, females, and college-educated smokers, and more menthol and low tar cigarette smokers.[38] Casual smokers typically felt "in control" of their smoking.

> *Typically they purchased cigarettes by the pack. One of the major reasons was to help them control their consumption.*
>
> *They did not smoke necessarily first thing in the morning or on any regular pattern during the day. They said that they smoked when they* wanted *a cigarette and at this time* they would seek situations where they could enjoy cigarettes and avoid conflict. *Since consumption was low this was easily accomplished with minimal, if any, conflict. They said that they wanted a cigarette for enjoyment or taste not because of "habit" or "need." These smokers viewed themselves as being in control. This sense of control helped these smokers justify their smoking and gave them some positive feelings.*[39] *[italic emphasis added]*

Philip Morris considered developing a more socially acceptable cigarette for casual smokers, but concluded that interest in such a product was low. Casual smokers' main response to social pressures was to limit situations in which they chose to smoke.

Brand Switchers and Quitting

Another group of smokers with greater potential to quit are those switching brands. Many tobacco industry studies on brand switchers often contained data on quitters.[17] For example, a 1992 Business Information and Analysis Proposal to R.J. Reynolds suggested profiling both brand switchers and quitters (smokers in a 1990 study who reported they switched brands or quit smoking when recontacted in 1992).[40] The aim was to be able to identify future switchers or quitters before they changed their behavior.[40] The proposal stated that these smokers may have a distinct set of attitudes or smoking behaviors that is different from other smokers.[40] Raw data tables and questionnaires from this quantitative study were found in another document,[41] but no reports were found.

Why Young Smokers Say They Quit

Many tobacco industry studies found that smokers overwhelmingly reported that their main motivation to quit was for "health" reasons.[17,42,43] For example, in one 1987 Philip Morris study, in response to open-ended questions asking for the 3 main reasons they quit, 85% of quitters (people who had quit smoking in the past 2 years and not returned) reported their reason for quitting was a health reason: 44% of the quitters stated a general health reason "improve health, harmful, not good for you," 10% stated "breathing problem/asthma," and 9% stated "lung damage, possible lung damage, bronchitis, emphysema."[17] The other most frequently mentioned reasons for quitting were pressure from other people (such as family, friends, or children) and the price or expense of cigarettes.[17] A 1992 R.J. Reynolds report from a quantitative study states that the "prime reasons for quitting" were health concerns and frustration with social restrictions, and that price was a lesser influence.[44]

A quantitative 1988 "Quitter Motivational Study" performed for Philip Morris showed some differences between younger (age 18 to 34) and older (age 35+) quitters' reasons for quitting (successful quitters were defined as anyone who quit smoking in the past 12 months and did not go back to smoking). On aided questioning, about 88% of both younger and older quitters stated they quit for health reasons, but younger quitters less frequently reported one of their reasons for quitting was a doctor's recommendation (Fig. 2).[42,43] Younger quitters more frequently reported they quit because of concern for the health of people around them, price reasons, or because of a desire to be more physically fit. Young quitters also reported using assistance to quit less often: 82.5% of younger successful quitters reported they stopped "cold turkey" compared to 69.9% of older quitters, and only 2.6% of young quitters and 5.4% of older quitters reported using nicotine replacement (which was by prescription at the time of this study).[42]

Tobacco Companies' Interest in Recapturing Quitters

Despite tobacco companies' frequent claims that their marketing was not designed to encourage nonsmokers to start nor to encourage relapse or discourage quitting, their internal documents suggest otherwise. For example, Philip Morris researcher Page Callaham laid out her objectives for quitters in a 1988 memo:

> *The following questions would be of primary concern:*
> *A. What would it take to get quitters back in the marketplace?*
> *B. What cigarette attributes would need to be added to a conventional cigarette in order to get nonsmokers to accept smokers?*[45]

A 1987 Philip Morris tracking survey asked successful quitters (people who had quit smoking in the past 12 months and not returned), "by the way, in what ways could cigarettes be changed, if any, so that you would be interested in smoking again?" Most ex-smokers (69%) said no changes would interest them; 16% suggested health-related changes (such as make cigarettes less harmful or to reduce nicotine); and 3% suggested to reduce the price.[17] This question also appeared in Philip Morris's 1988 Quitter Motivational study.[42,43] Philip Morris incidentally found smokers viewed tobacco company attempts to recapture quitters very negatively.[39]

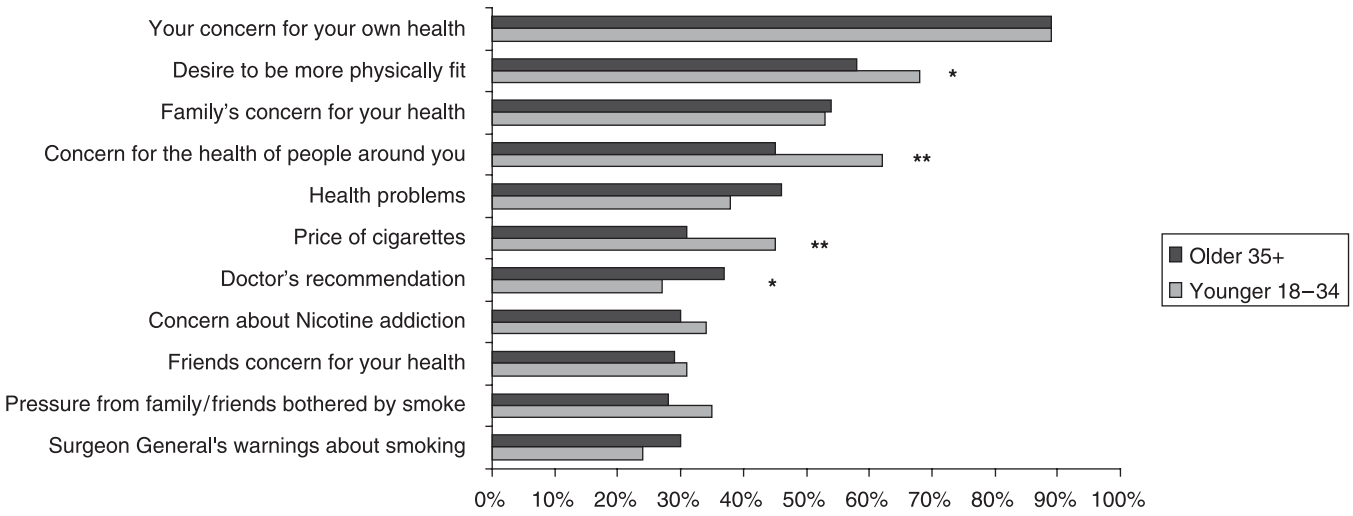

FIGURE 2. Most common reasons for quitting. Percentage of successful quitters (respondents who quit in the past year and did not go back to smoking) who reported (using an aided list of reasons to quit) that this was a reason why they quit.[42] Two-tailed z statistics (with Yates correction) were calculated to determine significant differences. ** $P < .05$; * $P < .10$ ($n = 413$ quitters age 18 to 34 and $n = 299$ age 35+. Power to detect a 10% difference: 40%.)

Low Tar Smokers Actually Quit Less

Although it is widely believed that low tar brands ease quitting, tobacco industry studies showed that these smokers actually quit less: "Low-tar smokers (and Ultra-lows) *say* they'll quit more than smokers in general, but actually they quit *less*, especially Ultra-lows."[18] [emphasis in original] A 1987 Smoker Dynamics report written for Philip Morris also notes that "contrary to myth," quitters were not more likely to smoke low tar and ultra low tar cigarettes.[17] Another Philip Morris quantitative study also found that although low tar smokers attempted to quit more frequently, ultra low tar smokers were *less* likely than average to have tried to quit in the past year.[46]

An R.J. Reynolds report written by Kay Duffy on July 18, 1980 also concluded that the lowest tar smokers did not quit at higher rates:

> There is no indication that the ultra low tar category is walking smokers out of the market: relative to share the quit rate among ultra low tar smokers is not significantly greater than the quit rate among either fuller flavor low tar smokers, or full flavor smokers.[19]

This report was also confirmed in a follow-up study conducted by R.J. Reynolds later that year.[20] One Philip Morris study also notes that low tar cigarettes might entice former smokers to restart smoking: "the majority of these smokers felt that people quit smoking for health reasons (e.g., doctor's orders) or for fear of perceived health risks. Therefore, they said a 'healthier,' no tar no nicotine, cigarette may appeal to prior smokers."[39]

Cigarettes Designed to Deter Quitting

Although health was the most frequently reported reason for quitting, tobacco companies also attempted to address younger quitters' concerns about price, nicotine addiction, and social acceptability. Tobacco companies also developed image savings brands to appeal to young price-sensitive smokers,[9,47] and recognized the need to develop more socially acceptable products, especially to appeal to young people.[48,49] In response to potential quitters' concerns about nicotine addiction, in the late 1980s and early 1990s Philip Morris qualitatively studied consumer perceptions of a nicotine-free cigarette. They found that a reduced nicotine cigarette connoted either health, or that it would help smokers quit: "Reducing the nicotine would reduce the effect of cancer." "Should be good for you and taste good too." Other smokers thought it would help them quit or cut down on the number of cigarettes they smoke: "95% less nicotine—much better for you—may help you to quit smoking."[50] Philip Morris researchers found that the nicotine-free cigarette appealed to quitters:

> *Non-menthol smokers, females, and younger smokers feel to a greater extent that nicotine addiction is why they smoke.... Smokers desirous of eliminating nicotine are more likely to have tried to quit smoking in the past year (54%).*[32]

Although generally older, female, low tar cigarette smokers were most interested in the nicotine-free cigarette, the smokers "who were searching for a way to quit" tended to be younger, single, and lower income.[35,51] In 1989, Philip Morris test marketed a "97% nicotine-free" cigarette under the brand names Next and Merit Free. Although the idea of the product appealed to smokers,[52] Philip Morris never launched the product after poor consumer reactions to the actual cigarette.[53–55]

DISCUSSION

Tobacco companies used consumer indices to identify characteristics that appeared to distinguish quitters from other smokers. They found quitters were younger (and shared other characteristics typical of young smokers, such as light or intermittent smoking patterns), and had more negative attitudes about smoking. There was some evidence that smokers of some minority groups (black and Hispanic) had a greater propensity to quit. The data on marriage and quitting were inconsistent. Brand switchers also had a greater propensity to quit. Surprisingly, smokers of low tar cigarettes were not more likely to quit.

There is a striking contrast between tobacco industry and public health views of quitters' demographics. Tobacco industry reports found that young adult smokers were most likely to quit, while most epidemiologic studies of smoking cessation report the highest rates among older smokers.[56,57] In addition, the tobacco industry has focused on deterring potential cessation, while public health studies focused on documenting successful cessation. Part of this may be due to differences in defining quitters: tobacco industry studies generally rely on self-reported quitting in the past 6 months to 1 year to define quitting, while health studies more often specify a minimum abstinence time criteria for smoking cessation (usually at least 1 or 2 years[56,58]). Public health measures most often calculate quit ratios, reporting the percentage of current (or ever) smokers who quit successfully. Tobacco industry studies compare the demographics of the quitting population to the characteristics of the smoking population in consumer indices. While consumer indices give a "snapshot" of the quitting population and ease comparison to the smoking population, they are a less useful measure to track changes in the population over time.

There are approximately 40 million pages of internal documents from the tobacco industry available to the public. The volume and often poor quality of indexing provided by the tobacco industry makes it difficult to locate all relevant documents. However, the industry strategies discussed here are consistent and replicated by several tobacco companies. These studies provide insight into the way tobacco marketers view and approach targets for multimillion dollar campaigns. The industry may have used other tactics that do not appear in this study.

Some public health studies have also documented frequent quit attempts among the youngest and oldest smokers,[14,58–60] while sustained cessation is found primarily among older smokers.[56,58,61,62] Tobacco companies expressly

attempt to study recent quitters, while public health reports often avoid counting individuals who quit recently (and are more likely to relapse) as quitters. While public health measures of smoking cessation provide a clear measure of success in reducing smoking, the industry approach is more proactive in terms of influencing smoking behavior (in this case, deterring or reversing successful cessation). The high rate of cessation attempts (along with the high failure rate) among young adults suggests an unmet need for targeted programs tailored to address their concerns.

Many characteristics of young adult smokers suggest they may be more amenable to quitting than smokers in general. Light smoking and prior quit attempts have been shown to predict subsequent cessation attempts and success.[63,64] Intermittent smokers have stronger intention to quit, and are also more likely to have quit in the past.[65,66] Recent data from California suggest that intermittent and occasional patterns of smoking are increasing.[14] When faced with social pressures, light smokers, social smokers, or casual smokers are more likely to choose not to smoke than to choose a more socially acceptable tobacco product. Young adults are not only more sensitive to social pressures, they are also more likely to exert social pressure on smokers by asking them not to smoke, or with outward displays of discomfort/disgust at smoking.[14,48] Messages that decrease the social acceptability of smoking may be most relevant to young adults.

Applying what is known about tobacco industry young adult marketing, coupling clean indoor air policies with media campaigns that appeal to young adults' aspirations appears to be a promising strategy. For example, the "You know you want to..." campaign at the University of Wisconsin, Oshkosh[67] linked quitting smoking with images of aspirations expressed by college student smokers: "You know you want to...be strong, ...be kissed, ...come in out of the cold, ...get 'em off your back." The preliminary outcomes of this intervention showed a reduction in smoking from 33.9% to 23.8% that was not seen in a comparison group.[68] Finally, successful teen campaigns that are designed to appeal to the values and aspirations of specific attitudinal groups such as the "truth" campaign[69] may be extended for young adults. Additional research to identify successful messages and strategies that reach young adult potential quitters is needed.

Prior tobacco industry document research reveals the tobacco industry has worked to oppose efforts to disrupt smoking cessation by opposing advertising for nicotine replacement[70,71] and by pressuring pharmaceutical companies.[72] In addition, we found that the tobacco industry is well aware that smokers of light or low tar cigarettes do not have higher quit rates. These data complement a prior study showing the tobacco industry developed low tar brands in order to retain health-conscious smokers[73] and health research showing smokers' mistaken beliefs about light and ultra light cigarettes reduce intentions to quit smoking.[74–76] The tobacco industry also attempted to subvert cessation efforts by developing new products that decrease the social pressures on smokers. The increasing development of tobacco "mints" and other smokeless nicotine products may serve the same purpose.

CONCLUSION

Young adults are an important group to reach both to interrupt the late phases of smoking initiation, and to encourage and sustain early cessation. The tobacco industry's research on this group suggests strategies that may be useful for those who encounter young adult smokers in clinical practice. First, young adults may be less likely to identify themselves as smokers, particularly if they smoke intermittently or socially. Clinicians should inquire about ever smoking, past smoking, and very recent quitting. Compared to older smokers, young adults attempt to quit more frequently, but are less likely to seek assistance with quitting. Efforts to offer young adults assistance to quit should be increased.

It may be useful to identify the smoking patterns that signal increased readiness to quit, including light smoking and switching brands. Primary care providers can also educate patients about the false health images associated with light, low tar, or "natural" cigarettes, and suggest quitting as an alternative to switching brands. If young smokers are not ready to quit, clinicians can encourage them to maintain smoke-free environments in their homes, offices, or vehicles, which will protect nonsmokers, make it less convenient to smoke, and decrease consumption and smoking cues over time. Finally, there is a need for new interventions that appeal specifically to young adult motivations and concerns about smoking. Experience with prior tobacco media campaigns suggests that targeted campaigns that resonate with smokers' needs and aspirations can be successful. It is now time to develop such interventions for young adults.

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