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## Tobacco and the Movie Industry

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The tobacco industry has had a long history of promoting cigarettes through the movies, despite agreements not to do so [1]. In response to the revelation that Philip Morris paid to place Marlboros in the film “Superman II,” the US Congress held hearings on smoking in the movies, which prompted the tobacco industry to amend its voluntary advertising code [2] to prohibit paid brand placement. Despite this agreement, the pervasiveness of brand placements in youth and adult films did not change [3]. In 1998, the tobacco industry signed the Master Settlement Agreement with state attorneys general that prohibited direct and indirect cigarette advertising to youth and paid product placement in movies [4]. Significantly, however, these agreements only apply to the US domestic subsidiaries of the tobacco industry (eg, Philip Morris USA), whereas historically the deals between the tobacco and motion picture industry were often done through the tobacco industry’s international subsidiaries (eg, Philip Morris International) [1].

In its first 2 years, the Master Settlement Agreement had little short-term effect on smoking or brand placements in youth-rated films. The amount of screen time that depicted tobacco increased by 50% after the Master Settlement Agreement, and brand placement in PG-13 films continued [5]. Although payment for

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tobacco placement in movies was supposed to have ended in 1990, internal tobacco industry documents indicated that movie producers have preferred cash, jewelry, or other nontraceable form of payment for product placement. The tobacco industry also has sought alternative venues for promoting cigarettes, such as encouraging celebrity use and sponsoring entertainment events [1].

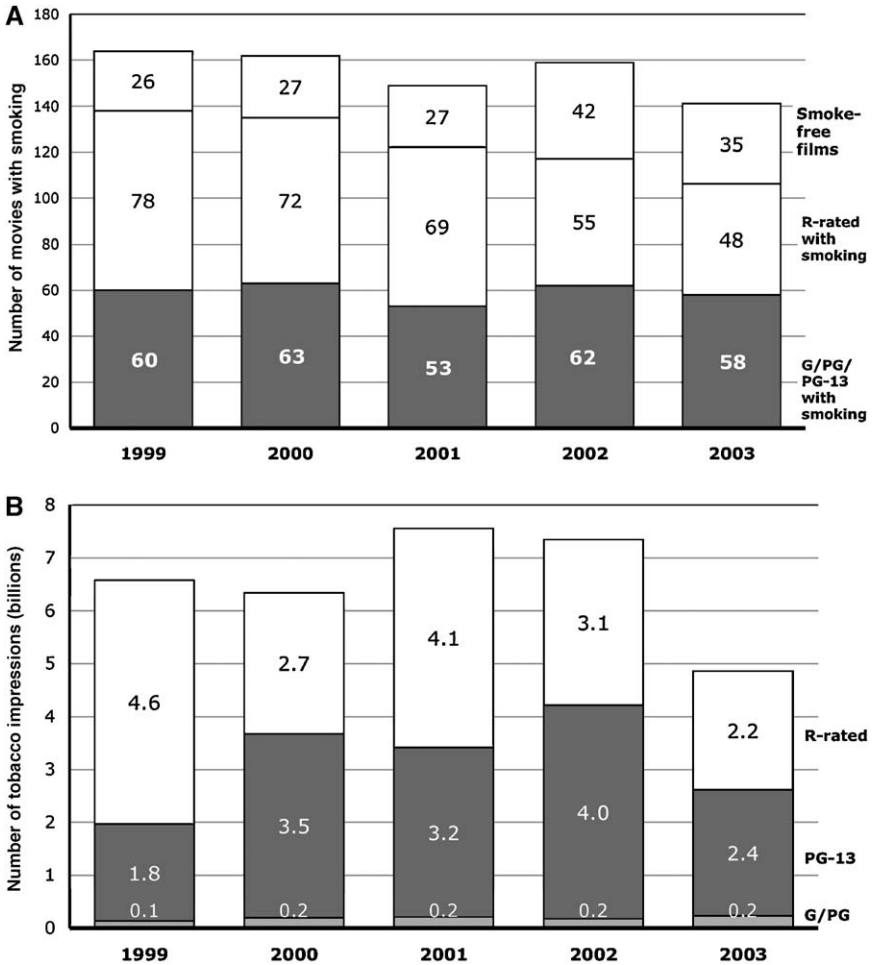


Fig. 1. Beginning in 2002, more tobacco impressions were delivered to theatrical audiences in youth-rated (G/PG/PG-13) films than adult-rated (R) movies. (A) Between 1999 and 2003, the number of youth-rated movies (G/PG/PG-13) with smoking held steady, whereas the number of R-rated releases with smoking dropped 38%. (B) The 20% drop in tickets sold from 2002 to 2003 (1.36 billion to 1.1 billion) accounts for 60% of the decline in tobacco impressions delivered by films in theatrical release. (This estimate does not include the number of impressions delivered via home video and broadcast television, which may have increased.) (From Polansky JR, Glantz SA. First-run smoking presentations in US movies: 1999–2003. San Francisco (CA): UCSF Center for Tobacco Control, Research, and Education; 2004. p. 5, 8; with permission.)

As a result, the amount of smoking in the movies has increased rapidly since the 1990s, reversing the downward trend that had existed since the 1950s and returned in 2002 to levels comparable to that observed in 1950 [6]. Recent research, including content analyses of films over time, focus groups, experimental, and epidemiologic studies on the effects of smoking in the movies, provides strong and consistent empirical evidence that smoking in the movies promotes smoking in adolescents and adults [7].

### **Patterns of smoking in movies over time**

Content analyses have examined the prevalence of tobacco in samples of top-grossing movies released between 1940 and 2002 [3,5,6,8–21]. Except for children's animated cartoons, which tended to feature more cigar use [9,10], cigarettes are by far the most prevalent form of tobacco [11,12,16]. Smoking is more prevalent in films than in real life, and smoking movie characters differ demographically from real people who smoke. Smoking in the movies peaked in the 1950s [18] and then fell from 1950 until 2002, from an average of 10.7 events/hour in 1950 to a low of 4.9 in 1980 to 1982, increasing rapidly to 10.9 in 2002 [6,11–13,15,16,19,21]. Eighty-seven percent of popular films released between the late 1980s and 1990s contained tobacco occurrences, with two thirds of those movies depicting tobacco use by one or more major characters [11]. Leading actors smoked in 60% of popular films from 2002 to 2003 [12]. This pattern of smoking in movies does not mirror changes in the intensity of smoking in the actual population; between 1950 and 2000, adult smoking prevalence in the United States fell from 44% to 22.8% [6].

In contrast to true smoking prevalence patterns, which tend to be concentrated among people with lower socioeconomic status [22], smoking movie characters are primarily from upper socioeconomic brackets, white, and male [8,11,12,15–17,19]. The number of smoking female leads has been increasing steadily, however, tripling from 11% in the 1960s to 30% in 1997 [15,16,19]. In a sample of films released between 1993 and 1997 that featured the most popular female actresses, the rate of smoking leads or supporting characters were approximately the same for men (38%) and women (42%) [20]. Still, from the 1960s through the 1990s, the prevalence of smoking by major movie characters remained approximately three times that of comparable people in the actual population [15,16].

The themes common to cigarette advertising are common in movies [23]. Smoking is routinely used to portray glamour, independence, rebelliousness [19,21], relaxation or stress relief [11,12,15,16,24], romance [18], socializing or celebrating [11,12,24], pensive thinking, and confiding in others [11,24]. Smoking is portrayed differently for men and women, however. Men are more likely to be depicted using tobacco to reinforce their masculinity, whereas women are more likely to be portrayed using tobacco to control emotions, manage stress, manifest power and sex appeal, enhance body image or self-image, control weight, or give themselves comfort and companionship [20].

Smoking in films is most commonly depicted as an adult behavior, with adolescents rarely depicted smoking [11,15]. Smoking is rarely presented realistically as an addiction that leads to disease and death, causes anguish and suffering in smokers' families [15,23], or has negative health, social, or legal consequences [11], especially in films made for younger audiences [20]. Analyses of children's G-rated animated films indicated that tobacco use remained stable from 1937 to 2000, that good and bad characters were equally likely to smoke, and that none of the films depicted the long-term health consequences of smoking [9,10].

Until the mid-1990s, the number of smoking occurrences in films increased with the rating of the film, with R-rated movies (under 17 not admitted without a parent) featuring significantly more smoking than G- (general audiences), PG- (parental guidance), or PG-13- rated (not recommended for children under 13) films [3,8,20,24]. In films between 1988 and 1997, R-rated films featured significantly more tobacco use by major characters (81%) than G- films (54.6%), PG- (53.1%), and PG-13-rated films (64%) [11]. Beginning in the mid-1990s, however, the Motion Picture Association of America began to "down rate" movies [25], which resulted in PG-13 ratings for many films that would previously have been rated R. This change also shifted the presentation of smoking incidents from mostly R-rated movies to teen-rated PG-13 movies [5,12,14]. By 2002, youth-rated (G/PG/PG-13) movies featured more smoking than R-rated movies (Fig. 1) [14].

### **Perceptions of smoking in movies**

Focus groups conducted with adolescents in New Zealand [26,27] and Australia [28] revealed themes that are consistent with the smoking trends found in content analyses. Specifically, younger (12–13 years) and older teens (16–17 years) accepted smoking images as a reflection of everyday life, perceived smoking as a common and acceptable way of relieving stress, expressed a nonchalant attitude about the presence of smoking in movies and real life, and while acknowledging health risks associated with smoking, still found smoking desirable [26–28]. The prevalence of adult smoking in films (versus adolescent smoking) seemed to reinforce stereotypes of adult behavior, which suggested that adolescents do not smoke to look like other adolescents; they smoke to look like adults [26,27].

### **Experimental studies**

Several experimental studies have found that exposure to movie smoking scenes made nonsmoking adolescents and adults more tolerant and accepting of smoking and smokers and increased their likelihood of smoking in the future [29–32]. Findings from an experiment with ninth grade nonsmoking teens

suggested that smoking in movies evokes feelings of excitement and pleasure and weakens viewers' perceptions that smoking is socially objectionable. Compared with nonsmoking scenes, smoking scenes elicited significantly more positive emotional reactions, positively impacted beliefs about how a smoker's stature and vitality are perceived by others, and positively impacted beliefs about how smokers perceive their own stature [30].

A study of Australian seventh and eighth grade students revealed that viewing smoking characters with high status was associated with more favorable attitudes toward smoking and higher smoking susceptibility, whereas viewing smoking characters with the low status had the opposite effect. This finding suggests that smoking in movies by characters with favorable social characteristics sends a pro-smoking message to adolescents [29]. Another experiment with nonsmoking ninth graders from California examined the effects of viewing an antismoking advertisement before a smoking movie [30]. For adolescents who did not see the antismoking ad, smoking scenes generated significantly more positive emotional reactions, led to more favorable beliefs about a smoker's stature, and increased their intent to smoke. To the contrary, adolescents who saw the antismoking ad had significantly more negative thoughts about the lead characters who were depicted as smokers [30].

Similarly, in a survey conducted with female movie goers (aged 12–17 years) as they left the theater, 48% of those who viewed an antismoking ad before a movie with smoking later responded that movie smoking was “not ok,” compared with 28% of moviegoers who did not see the antismoking ad. For current smokers, the antismoking advertisement significantly decreased their future intent to smoke [33]. As with adolescents, exposure to movie smoking is associated with adults' overestimation of smoking in real life. In a survey of Australian adults leaving movie theaters, more than half (52%) believed that smoking occurs more in real life than in the films; only 17% of the subjects sampled believed that people in films smoke more than in real life [34]. Higher perceptions of smoking prevalence were associated with watching movies more frequently and lower educational status.

For adult smokers, exposure to movie smoking increased their desire to smoke [35], likelihood to smoke in the future [32,35], and perceived positive image of smoking [31,32]. Exposure to movie smoking also made nonsmokers more willing to become friends with a smoker [31] and increased their likelihood to smoke [35]. Similar to the effects of viewing an anti-tobacco ad before viewing movie smoking on studies with adolescents [33,36], viewing anti-tobacco content impacted adults' attitudes about smoking and future intent to smoke, regardless of whether they were current smokers, ex-smokers, or non-smokers [34].

### **Effects of smoking in the movies on smoking behavior**

After adjusting for covariates associated with adolescent smoking susceptibility and initiation, epidemiologic studies in California [37,38], Northern New

England [24,39–44], the entire United States [45], and Victoria, Australia [29] have demonstrated a strong dose-response relationship between the amount of movie smoking adolescents are exposed to and the likelihood that they will begin smoking [7]. The most direct assessment of the dose-response relationship between exposure to smoking in the movies and adolescent smoking was a cohort study of nonsmoking adolescents (aged 10–14 at study entry) in Vermont and New Hampshire who were followed for 13 to 26 months [43]. The study found that adolescents in the highest quartile of exposure to smoking in the movies were 2.71 times more likely to have started smoking than adolescents in the lowest quartile of exposure. More than half (52.2%) of smoking initiation was attributable to exposure to smoking in the movies, a larger effect than that associated with cigarette advertising (34%) [46]. These results were confirmed in a national cross-sectional study by the same investigators [45].

On-screen smoking by adolescents' favorite stars is another way to measure exposure to smoking in the movies. A cross-sectional study of California adolescents examined the relationship between teens' smoking susceptibility and their favorite stars' smoking status [37]. They found that stars favored by adolescent smokers and nonsmokers significantly differed, with adolescent smokers favoring stars who were more likely to smoke on screen. Nonsmoking adolescents who named a favorite star preferred by smokers were more likely to be susceptible to smoking (OR = 1.35) [37]. In a follow-up longitudinal study of adolescents from the original sample who were nonsmokers at baseline, those whose favorite stars smoked on screen were significantly more likely to have smoked 3 years later [38]. Adolescent girls whose favorite stars smoked in movies had increased odds of smoking, compared with adolescents whose favorite stars did not smoke (OR = 1.86) [38].

In a study of male and female adolescents in New England, the odds of having advanced smoking status and favorable attitudes toward smoking increased with the number of films in which their favorite star smoked [39]. Among never-smokers, those who chose favorite stars who were smokers in films were much more likely to be susceptible to smoking (adjusted OR 4.8 for stars who smoked in two films; OR 16.2 for stars who smoked in three or more films) [39]. A cross-sectional study of adolescents from Victoria, Australia who had a favorite actor or actress did not detect any effect of on-screen smoking by the top ten favorite actors or actresses on students' beliefs or intentions to smoke [29]. This study did find that on-screen smoking by favorite male actors was positively associated with student smoking behavior, however, especially among female students.

The effects of movie smoking also have been found in adolescents who reside in other countries, regardless of whether they viewed movies produced in the United States or in their native country. Preliminary studies (without controls for confounding) that examined teens' media habits and smoking-related behaviors revealed that the more US movies that Thai and Hong Kong teenagers had seen, the greater the likelihood of their having smoked [47,48]. For many of these teens, the desire to emulate an American lifestyle led to smoking. Adolescents in India who viewed Indian movies reported that they were influenced by smoking

in the movies because they wished to emulate the stars' behavior and that off-screen smoking was equally influential as on-screen smoking [49].

### Reducing the effect

Movies are such a powerful influence on adolescents that they can negate the effects of positive parental role modeling on smoking initiation (Fig. 2) [24]. Parental actions to reduce adolescent exposure to smoking in the movies also have been found to be associated with a reduction in adolescent smoking. In the New England cohort, exposure to movie smoking significantly decreased when parents increased restrictions on viewing R-rated movies [44]. The reduced exposure to smoking was accompanied by corresponding reductions in smoking initiation (14.3% of the adolescents with little or no restrictions on viewing R-rated movies started smoking compared with 7% for adolescents allowed to view R-rated movies once in a while and 2.9% for adolescents never allowed to view them). These effects were greatest in children of nonsmoking parents. These findings also confirmed those of earlier cross-sectional studies of the New England cohort, which demonstrated that parental restriction of R-rated movies has a significant effect on exposure to movie smoking [42] and that children with no restrictions or partial restrictions on R-rated movies were at greater risk for having tried smoking than children with complete restrictions [41].

Although parental restrictions on viewing R-rated movies significantly reduced youth exposure to movie smoking and subsequent smoking, the shift of smoking from R-rated movies to PG-13-rated movies reduces the effective-

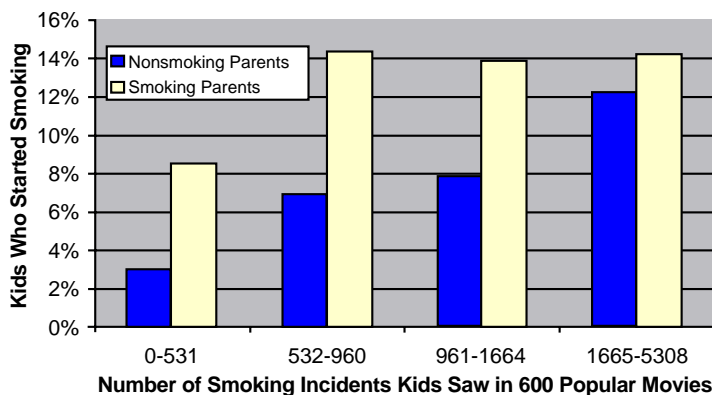


Fig. 2. The effects of smoking in the movies are stronger in adolescents whose parents are non-smokers than smokers. Heavy exposure to smoking in movies can negate the effects of good parental role modeling. The exposure ranges are quartiles of exposure to smoking in the movies. (Data from Dalton MA, Sargent JD, et al. Effect of viewing smoking in movies on adolescent smoking initiation: a cohort study. *Lancet* 2003;362:281-5.)



[ ONE IN A SERIES ]

# Movie stars don't have to find a cure for cancer. *But at least they could stop causing it.*

**B**ig Tobacco is the leading preventable cause of death. Yet stars like Julia Roberts and Brad Pitt glamorize its deadly products by smoking on screen in films shown worldwide. Think how much good they could do if they simply quit smoking in their movies. Given the evidence, wouldn't you?



**Julia Roberts and Brad Pitt** have influenced young audiences to smoke in at least four movies each. Will their most lasting legacy be hundreds of thousands of deaths? Or a principled refusal to do Big Tobacco's dirty work?

Over the next twelve months, the tobacco industry will kill more women and men in the U.S. than AIDS, drunk driving, illegal drugs, homicide and suicide combined.

Over the next ten years, more than fifty million people will die of tobacco-related diseases worldwide: heart disease, emphysema, cancer.

One in seven kids worldwide gets hooked by age fifteen. Most want to quit now; most will fail. One in three will end up dead from their addiction.

Every day in the United States, two thousand more teens become addicted to tobacco. Smoking is growing even faster in the developing world, where awareness of the dangers is lowest and Big Tobacco's marketing tactics are uncontrolled.

Both in the U.S. and overseas, American movies are a key vehicle for promoting tobacco addiction.

On screens as big as billboards and on millions of videos, U.S. movies in the 1990s showed more smoking than in half a century — with more stars promoting specific brands.

80% of top-grossing PG13 movies and video releases from 1996 to 2000 featured smoking. Tobacco's screen time in those youth-targeted movies climbed 50% over the same period.

Just how influential are stars who smoke? Recent studies show that if a teenager's favorite movie star smokes on screen, he or she is significantly more likely to actually start smoking — even if friends and family don't.

Big Tobacco knows the power of movies. Ten years ago, it was paying to place its products on screen while denying it to Congress. It denies paying today, too. But do tobacco companies even pretend to protest when trademarked brands appear in the

hands of stars like Julia Roberts or Brad Pitt? Don't hold your breath.

Either stars are trading favors with Big Tobacco, in which case they're corrupt. Or they're pumping up Big Tobacco's profits for free, in which case they're stupid.

As more young fans realize that nothing winds up on screen by

accident, they're asking stars to stop doing Big Tobacco's dirty work. The stars owe it to their audience to listen.

Here are other powerful ways for Hollywood to get unhooked from Big Tobacco:

**1] ROLL ON-SCREEN CREDITS IN SMOKING FILMS** certifying that nobody on a production accepted *anything* of value from any tobacco company, its agents or fronts.

**2] RUN STRONG ANTI-TOBACCO ADS IN FRONT OF SMOKING MOVIES.** On tapes and DVDs, too. Strong spots are proven to immunize audiences.

**3] QUIT IDENTIFYING TOBACCO BRANDS** in the background *or* in action. Brand names are unnecessary.

**4] RATE NEW SMOKING MOVIES "R"** to give parents more power to protect children against the tobacco industry.



**SMOKE FREE MOVIES**

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## Get the inside story at [SmokeFreeMovies.ucsf.edu](http://SmokeFreeMovies.ucsf.edu)

Smoke Free Movies aims to sharply reduce the film industry's usefulness to Big Tobacco's domestic and global marketing—a leading cause of disability and premature death. This initiative by Stanton Glantz, PhD (coauthor of *The Cigarette Papers* and *Tobacco War*) of the UCSF School of Medicine is supported by the Robert Wood Johnson Foundation and the Richard and Rhoda Goldman Fund. To learn how you can help, visit our website or write to us: Smoke Free Movies, UCSF School of Medicine, Box 1390, San Francisco, CA 94143-1390.

Fig. 3. The Smoke Free Movies advocacy campaign uses a combination of advertising in the entertainment industry trade press, a website ([www.smokefreemovies.ucsf.edu](http://www.smokefreemovies.ucsf.edu)), and community organizing to press the motion picture industry to implement policy changes that will reduce its value in promoting cigarette consumption for the tobacco industry. (Courtesy of the Smoke Free Movies Project, University of California, San Francisco; with permission.)

ness of parental R-rated movie restrictions on adolescent smoking [44]. Amending the ratings system to rate new movies with smoking as “R” would reverse this effect and substantially reduce adolescent exposure to smoking in movies. The ratings system, which is controlled by the studios and theaters and administered by the studios’ lobbying organization, the Motion Picture Association of America, already gives motion pictures an R rating for “language” (one use of the “f word” in a sexual context or two uses in any context earns a film an R rating) and simply could apply the same standard to smoking [50]. Because motion pictures are products designed to be sold to specific audiences, the studios would leave smoking out of movies designed to be marketed to teenagers (which usually have a PG-13 rating), just as they currently see that such films do not include “offensive language.” Such a policy change would cost nothing and immediately reduce adolescent exposure to smoking in the movies. It would not prohibit any smoking in movies; it simply would restrict it to R-rated films. Parents reasonably can restrict adolescent exposure to such movies [44].

The Smoke Free Movies project ([www.smokefreemovies.ucsf.edu](http://www.smokefreemovies.ucsf.edu)) promoted by one of the authors of this article (S.A.G.) is actively advocating for this policy change (Fig. 3). In addition to the R rating, Smoke Free Movies is advocating for three other policy changes to reduce the ability of the tobacco industry to influence the content of films. There should be a requirement that producers certify that no one connected with making a film accepted anything of value from the tobacco industry, its agents or fronts, to put smoking or other tobacco promotions in a film. (This requirement to disclose tobacco industry involvement by the people involved in making a film would be similar to the disclosures that are routinely required of people who publish papers in medical journals [51].) Films also should end all brand identification and run an antismoking ad before any movie that contains tobacco use to neutralize the pro-tobacco effect of the film [30,34]. These steps would reduce effectively the number of adolescents who begin smoking without any cost to the movie industry or compromise in artistic decision by filmmakers.

## Summary

Despite the tobacco industry’s agreements not to promote cigarettes in movies, smoking in the movies was as prevalent in 2002 as it was in 1950 [6]. Historically, the tobacco industry always has recognized smoking imagery in movies as a successful advertising strategy. A 1972 letter from a movie production executive to RJ Reynolds Tobacco explained that “film is better than any commercial that has been run on television or any magazine, because the audience is totally unaware of the sponsor involvement...” [52]. A population-attributable risk calculation suggested that the movies account for approximately 390,000 new adolescent smokers in the United States annually [46]. Perhaps not by chance, this figure is almost enough to replace the 400,000 active smokers whom the tobacco industry kills every year [53].

Content analyses, focus groups, psychological experiments, and epidemiologic studies provide a consistent chain of evidence that smoking in the movies leads adolescents to hold more pro-tobacco attitudes and beliefs and is associated with a dose-response relationship to subsequent smoking behavior. Smoking movie characters reinforce the same themes common to tobacco advertising (eg, glamour, coolness, attractiveness, sexiness, rebelliousness) and portray smoking as a sign of maturity and adulthood. Smoking in the movies also helps to establish the perception that smoking is normal, prevalent, and even desirable in society. The fact that smoking is more prevalent in the movies than in real life and that smoking in films is rarely associated with any negative outcomes encourages tolerance for smoking in society and reinforces smoking as a desirable behavior [54–56].

A policy change to assign an R rating to smoking movies, together with other policy changes to mitigate the impact of smoking in movies, would reduce almost immediately adolescent exposure to smoking and subsequent initiation by approximately 60%, preventing approximately 200,000 adolescents from starting to smoke each year and avoiding approximately 62,000 premature deaths [46].

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