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Smoking in top-grossing US movies 2014

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# Smoking in top-grossing US movies

# 2014

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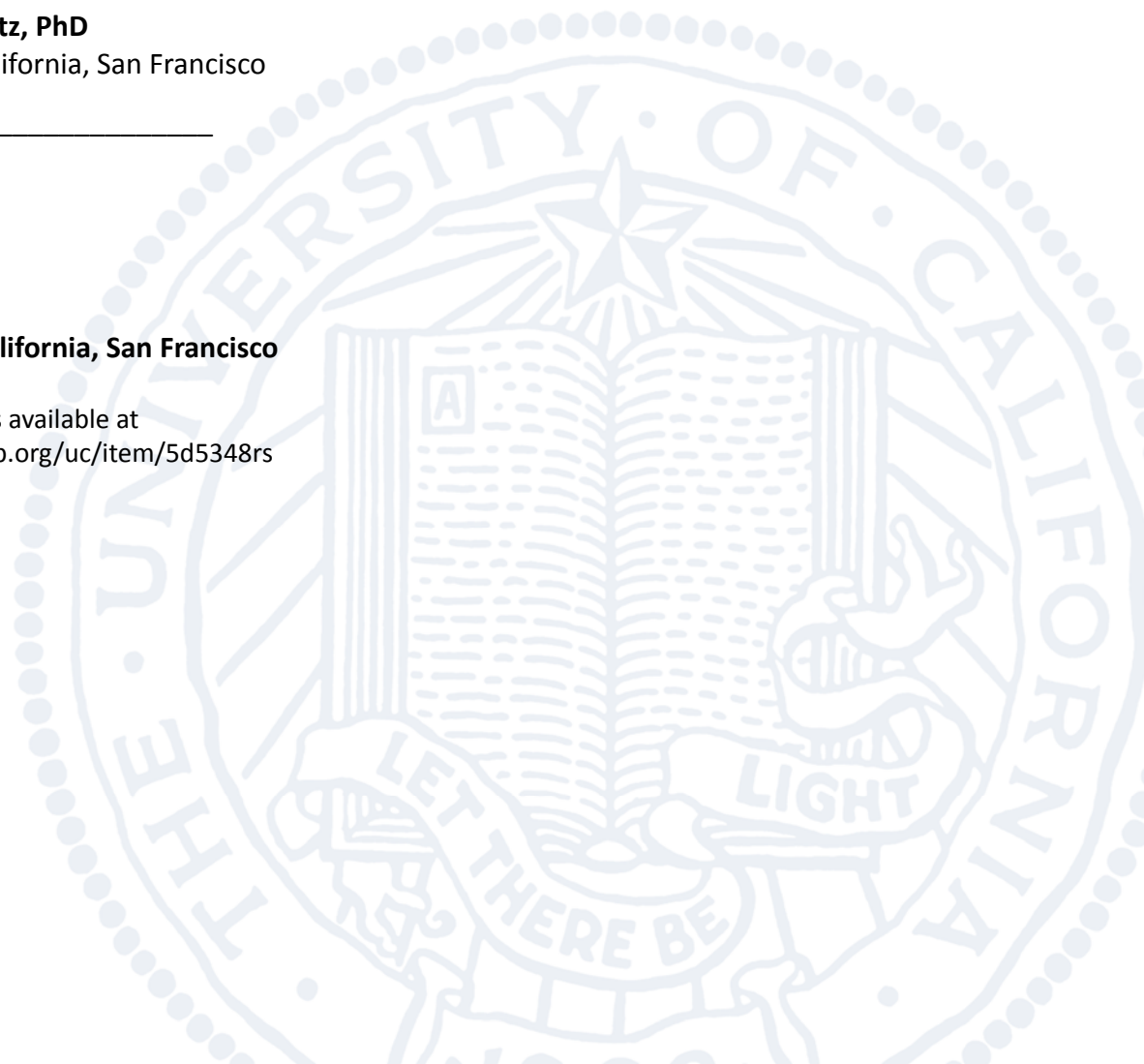
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## SUMMARY of FINDINGS

From 2002 to 2014, the share of youth-rated (G/PG/PG-13) films with tobacco imagery fell by nearly half, from 68% to 36%. However, almost half of PG-13 films still featured tobacco imagery in 2014. There has been no substantial decline in the percentage of all youth-rated films with smoking since 2010.

Films rated G or PG comprise about 20 percent of all top-grossing films. Tobacco presence in these films continued to be very low, less than a single incident per film on average. PG-13 films comprise 45 percent of top-grossing films. On average, there were 19 tobacco incidents per PG-13 film in 2014, near the top of the range observed between 2002 and 2014.

While the share of PG-13 films with any smoking has decreased, tobacco incidents per PG-13 film with smoking have increased. In 2014, the average PG-13 film with smoking included more tobacco incidents than in any year since 2002 — and more than were seen in R-rated films since 2007. As a result, there were as many total tobacco incidents in PG-13 films in 2014 as there were in 2002: more than 1,150.

R-rated films average twice as much smoking as PG-13 films. But audiences for youth-rated films are more than twice as large as for R-rated films, and more youth-rated than R-rated top-grossing films are released each year. As a result, in 2014, PG-13 films accounted for 56 percent of US moviegoers' tobacco exposure (10.6 billion tobacco impressions) while R-rated films delivered 43 percent (8.3 billion).

From 2010 to 2014, Time Warner's Warner Bros. film division accounted for 23 percent of the 101 billion tobacco impressions delivered to US moviegoers by youth-rated films, followed by Sony (19%), Viacom's Paramount (15%), Fox (13%), Disney (8%), and Comcast's Universal (6%). Independent producer-distributors, who do not belong to the Motion Picture Association of America, accounted for 16 percent of audience exposure, in theaters, from youth-rated films.

Film companies have varied in their performance since the US Surgeon General concluded, in 2012, that on-screen smoking causes children to smoke. At Warner Bros. and Disney, tobacco incidents per PG-13 film plummeted from 2013 to 2014. However, PG-13 rated tobacco content more than doubled — often much more — at the four other MPAA-member studios, all of which claim to discourage smoking in their kid-rated movies. PG-13 smoking also doubled in films from independent companies that have no such policies.

The rise in on-screen tobacco incidents and continuous delivery of billions of tobacco impressions to young moviegoers, despite temporizing gestures by the US film industry, underscores the urgent need to modernize the MPAA's R-rating to cover all future films with tobacco imagery. This would give all film producers a voluntary, market incentive to make the films that children and adolescents see most smokefree.

## BACKGROUND

In the last two decades, health researchers in more than a dozen countries have repeatedly confirmed what US tobacco companies have known since the late 1920s: movies sell smoking.<sup>1</sup> In 2012, after reviewing the scientific evidence, the US Surgeon General concluded that exposure to smoking on screen *causes* kids to smoke.<sup>2</sup>

**Harm from film smoking** | Exposure to on-screen smoking is a major factor in smoking initiation. Based on large-scale US studies of exposure effects,<sup>3</sup> films will recruit an estimated 6.4 million new US smokers from among today's children.<sup>4</sup> Almost 90 percent of those recruited to smoke by on-screen exposure will start smoking before age 18.<sup>5</sup> Two million of them will ultimately die from tobacco-induced diseases including heart attacks, strokes, lung and other cancers, and emphysema.<sup>6</sup>

The encouraging news is that reducing kids' exposure to on-screen smoking will reduce kids' risk of smoking. In January 2014, the U.S. Surgeon General reported that R-rating future films with tobacco imagery would reduce teen smoking rates by 18 percent;<sup>7</sup> doing so would avert one million of the 5.6 million projected future tobacco deaths among children alive today.<sup>8</sup>

State-by-state estimates of the harms to children and adolescents from continuing exposure to on-screen smoking, and attendant health care costs, are offered in Appendix A.

**Widely-endorsed policy solutions** | A modernized R-rating should be based on the Surgeon General's conclusions that on-screen smoking causes youth smoking and the fact that an R rating would avert one million deaths among youth alive today.

The rating for a film is routinely determined as part of the business plan for a film before it is made. Film producers already calibrate screenplays, film direction, and editing to achieve the rating that is desired for marketing purposes. An R-rating for smoking would supply the same market incentive as today's R-rating exerts on strong language, grisly violence, and sexualized nudity. Just as producers include these elements in films knowing they will trigger an R-rating, the R-rating for smoking will keep tobacco imagery out of films that media companies want rated so as to be accessible to adolescents. At the same time, filmmakers will remain free to include smoking in any film they produce.

The proposed R-rating for tobacco would exempt portrayals of actual people who actually smoked, as in a biographical drama or documentary. It would also make an exception for depictions of the real health consequences of tobacco use, including exposure to secondhand smoke.

Evidence-based policy solutions complementary to the R-rating include:

- (1) strong anti-tobacco spots before films with smoking, in any medium
- (2) producers' certifying that no one associated with their film production entered into any agreement related to tobacco's on-screen presence;
- (3) ending all tobacco brand display on screen;
- (4) making media productions with smoking ineligible for public subsidies.

Such policies have been endorsed by the US Centers for Disease Control and Prevention, the World Health Organization, the New York State and Los Angeles County health departments, and leading national health and medical organizations.

**Hollywood's response** | Put on notice by health experts as early as 2003, and ignoring their own Harvard School of Public Health consultants' advice in 2007, the major Hollywood studios or their parent companies have responded to the problem of on-screen smoking in modest ways:

- At their own expense, all MPAA-member companies add State of California-produced anti-tobacco spots to their youth-rated DVDs with smoking, distributed in the United States (but not to movies when shown in theaters or delivered on video-on-demand platforms);
- Between 2005 and 2007, three MPAA-member companies — Disney, Warner Bros., and Universal — published corporate policies related to tobacco depictions. In 2012 and 2013, the three other MPAA-member companies — Fox, Sony, and Paramount — followed.
- Most of these policies prohibit tobacco product placement deals with the companies themselves. None extend that stipulation to, or require certification of no payoffs from, the production companies contracted to make the films that the studios develop, finance, promote, and distribute.
- As of April 2015, subjective language in all of these policies allows any youth-rated film to justify inclusion of tobacco imagery.\* None prohibits tobacco brand display in films they produce or distribute.
- Between 2007 and 2014, the MPAA added small-print "smoking" labels to 12 percent of all top-grossing, youth-rated films with smoking.

**What is the US film industry really doing?** | Since 2002, Thumbs Up! Thumbs Down! (TUTD), a project of Breathe California of Sacramento-Emigrant Trails, has collaborated with the University of California, San Francisco, to analyze data that TUTD methodically collects on tobacco incidents in films (shots of tobacco use or

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\* For example, the policy of Paramount (Viacom) says: "Paramount discourages the depiction of smoking or tobacco in youth-rated films. Paramount will communicate this policy to its filmmakers, but also will take into account the creative vision of the filmmakers recognizing that there may be situations where a filmmaker believes that the depiction of smoking or tobacco is important to a film."

implied use within each scene) since 1991. TUTD also reports tobacco brand appearances and identifies who uses tobacco in films.

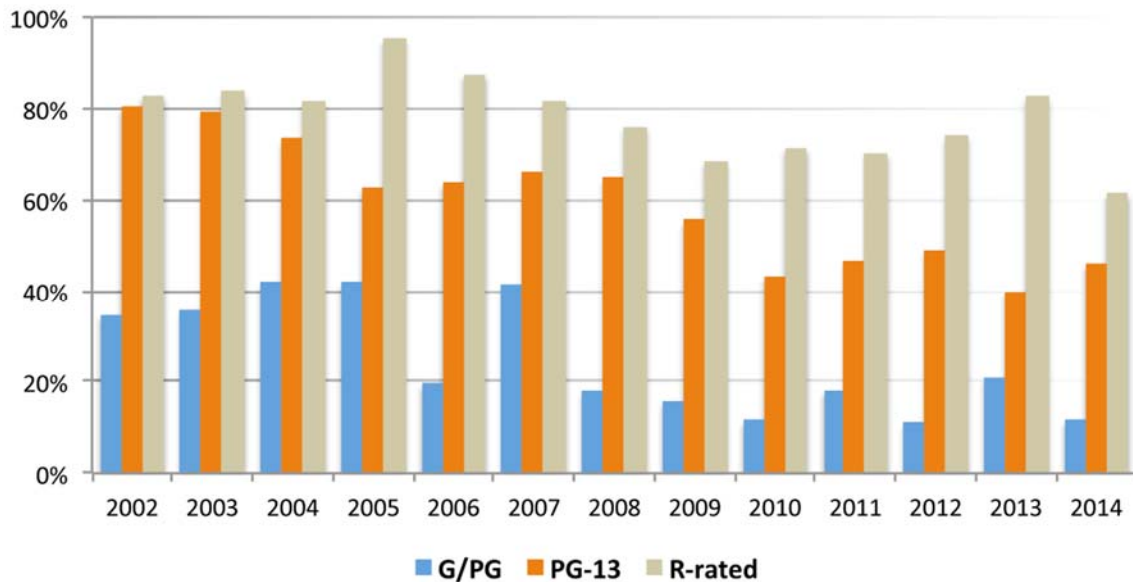
This report analyzes data from the 1,853 top-grossing films released in the US from 2002 to 2014. Top-grossing films are those that ranked among the top ten films in box office gross in any week of their first-run theatrical release. With particular attention to changes since 2010, when smoking in youth-rated (G/PG/PG-13) films hit its lowest level, this report addresses four questions, by film rating and by the company responsible for producing and distributing these films:

- 1) What percentage of films feature tobacco imagery? (Fig 1)
- 2) How many tobacco incidents are included in films? (Figs 2-4)
- 3) How much exposure do moviegoers receive? (Fig 5, Table 1)
- 4) Do some companies perform differently than others? (Fig 6, Table 2)

This report also updates data on tobacco brand display in films (Figs 7).

## 1 | What percentage of films feature tobacco imagery?

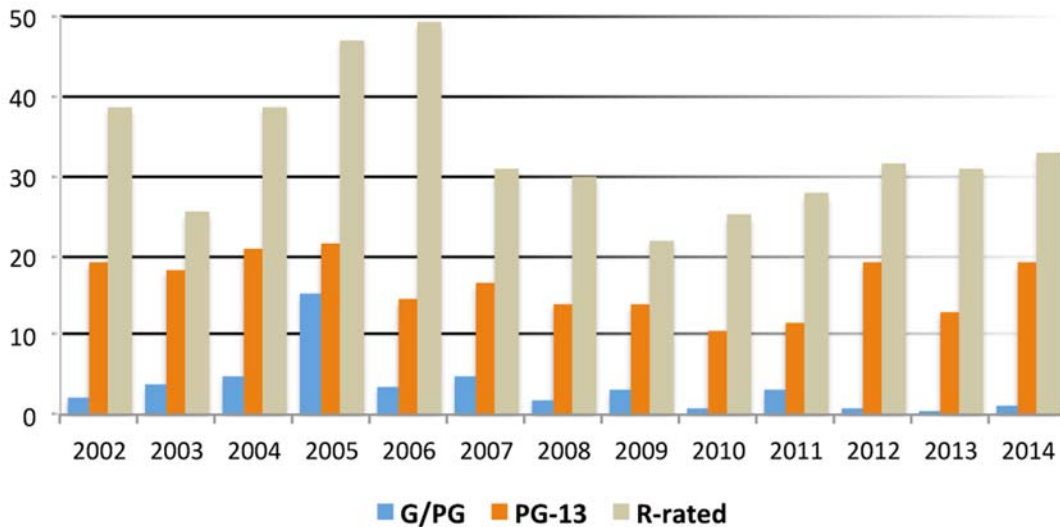
**Fig 1 | Share of films with tobacco imagery, by MPAA rating (2002-2014)**



**Observation:** From 2002 to 2014, the share of G/PG and PG-13 films with tobacco imagery fell by nearly half (68%/36%). However, almost half of PG-13 films (46%, 28/61) still featured tobacco imagery in 2014. There has been no substantial decline in the percentage of youth-rated (G/PG/PG-13) films with smoking since 2010.

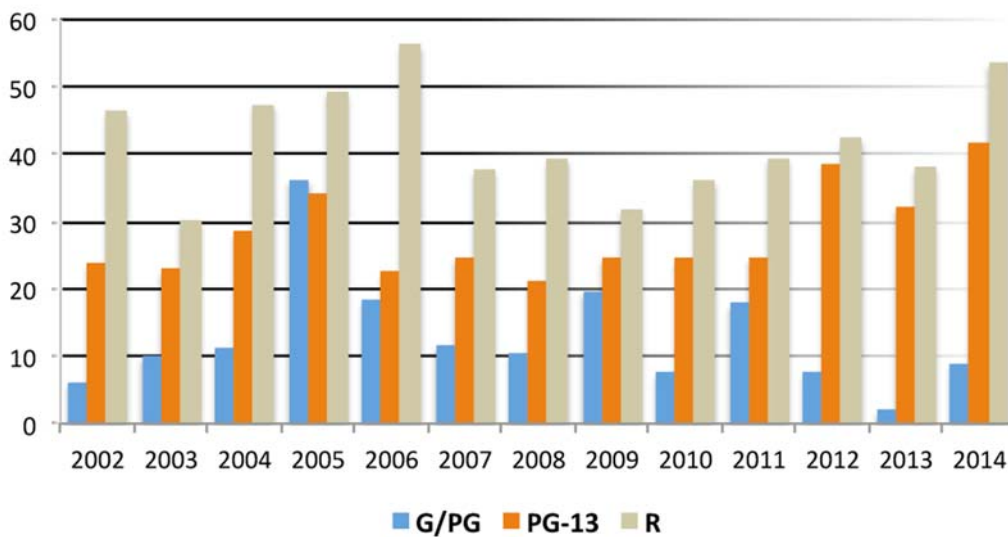
## 2 | How many tobacco incidents are included in films?

Fig 2 | Tobacco incidents per film (2002-2014)



**Observation:** To account for fluctuations in the numbers of films released annually, tobacco incidents are divided by the total number of films in each rating class, regardless of whether they include smoking or not. From 2002 to 2014, G/PG films comprised about one-fifth of top-grossing films; smoking in G/PG films from 2012 to 2014 was very low, averaging a single incident per film in 2014. PG-13 films comprise 45 percent of top-grossing films. Tobacco incidents per PG-13 film climbed 48 percent (13/19) from 2013 to 2014, nearing levels seen ten years before, in 2004.

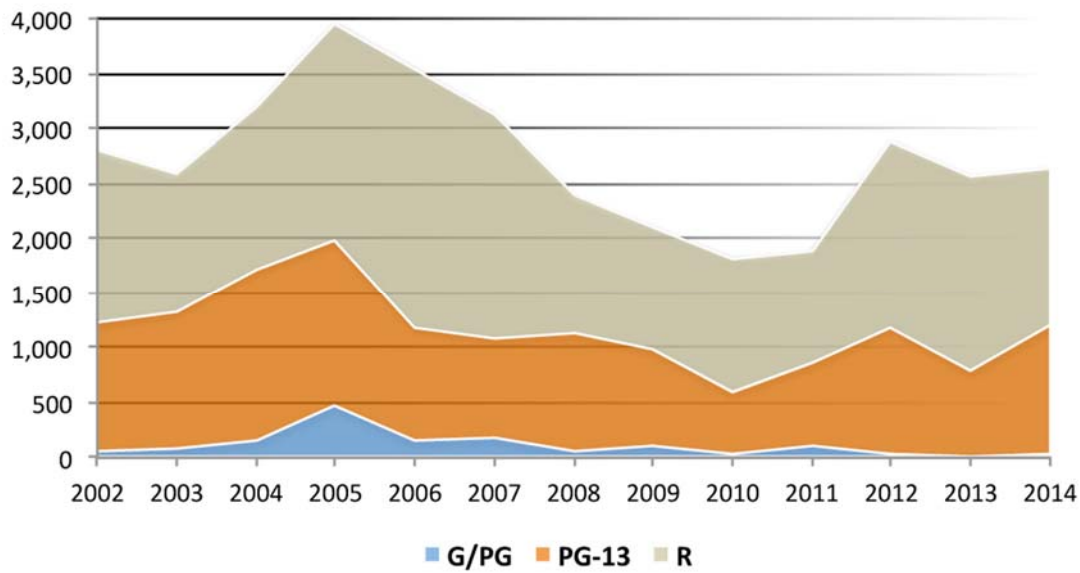
Fig 3 | Tobacco incidents per film with any smoking (2002-2014)



**Observation:** To track the annual average amount of smoking in films that feature any smoking, tobacco incidents are divided by the total number of films with smoking in each rating class. While the share of PG-13 films with any smoking has decreased (Fig 1), tobacco incidents per PG-13 film with smoking have increased. In 2014, the average PG-13 film with smoking included more tobacco incidents than in any year since 2002 — and more tobacco incidents than were seen in R-rated films since 2007.

The share of PG-13 tobacco incidents delivered by films with more than 50 incidents has also increased. In the five-year period 2002-2006, PG-13 films with more than 50 incidents accounted for 54 percent (3,516/6,537) of all incidents in top-grossing PG-13 films. In the period 2010-2014, they accounted for 68 percent (3,000/4,412).

**Fig 4 | Total tobacco incidents (2002-2014)**

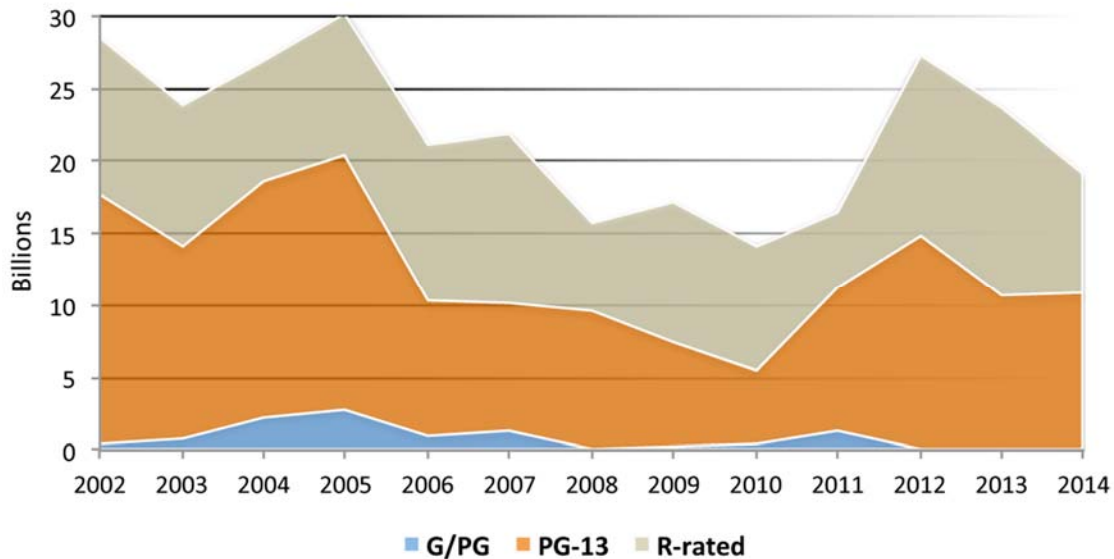


**Observation:** From 2013 to 2014, total tobacco incidents in youth-rated, top-grossing films increased 52 percent (783/1,192). In 2014, youth-rated films contained 45 percent of all tobacco incidents, about average for 2002-2014. After a five year decline between 2005 and 2010, and a subsequent rebound, tobacco incidents in top-grossing films in 2014 returned to where they were in 2002 (2,639 in 2014 vs. 2,798 in 2002 for all films and 1,165 vs. 1,169 in PG-13 films).



### 3 | How much exposure to moviegoers receive?

Fig 5 | Billions of in-theater tobacco impressions (2002-2014)



**Observation:** Tobacco impressions multiply tobacco incidents in a film by the number of viewings (paid admissions).<sup>\*</sup> While R-rated movies averaged twice as many tobacco incidents as PG-13 films from 2002 to 2014 (Fig 2, 33/16), and there were only 5 percent more PG-13 films with smoking than R-rated films with smoking (505/483) in those years, PG-13 movies delivered 20 percent (150/125 billion) more total tobacco impressions than R-rated films. This effect was because the audience for the average PG-13 film with smoking was more than twice the size of the audience for the average R-rated film with smoking (2.1 times, 17.6 vs. 8.2 million paid admissions).

From 2010 to 2014, theater audiences received more than half (53%, 53/101 billion) of their tobacco impressions from youth-rated films. In 2014, G/PG films delivered less than one percent (151 million/19.1 billion), PG-13 movies delivered 56 percent (10.6 billion), and R-rated movies delivered 43 percent (8.3 billion). In 2014, youth-rated films delivered nearly twice as many tobacco impressions as they did in 2010 (10.8 vs. 5.5 billion).

A handful of companies account for all top-grossing films released each year. Some of the companies are more prolific than others, but the amount of tobacco exposure their youth-rated films deliver to theater audiences also depends on the amount of smoking in each film, the film's production and advertising budget, and the consequent size of the audience that stars and ads attract. Table 1 lists the six

<sup>\*</sup> Only in-theater impressions can be calculated because in-home viewership data for individual films is not publicly available. UK data suggest that films are seen seven times more often at home than in theaters.

major film companies that control the MPAA and, as a group, the independent companies (not MPAA members) that released youth-rated, top-grossing films from 2010 to 2014.

**Table 1 | Youth-rated tobacco impressions delivered by MPAA-member and Independent film companies (2010-2014)**

Company	Impressions (millions)	Percent
Comcast (Universal)	6,509	6%
Disney	8,477	8%
Fox	13,004	13%
Sony	18,729	19%
Time Warner (Warner Bros.)	22,926	23%
Viacom (Paramount)	15,372	15%
<b>MPAA company subtotal</b>	<b>85,017</b>	<b>84%</b>
<b>Independents</b>	<b>15,772</b>	<b>16%</b>
<b>TOTAL</b>	<b>100,789</b>	<b>100%</b>

**Observation:** Overall, from 2010 to 2014, films from MPAA-member companies delivered 84 percent (85/101 billion) of all youth-rated tobacco impressions. Independent films delivered 16 percent (16/101 billion).

#### 4 | Do some companies perform differently than others?

Have company policies on tobacco depictions adopted by individual companies made a substantial difference in their practices? Does the timing of these policies' adoption make a difference?

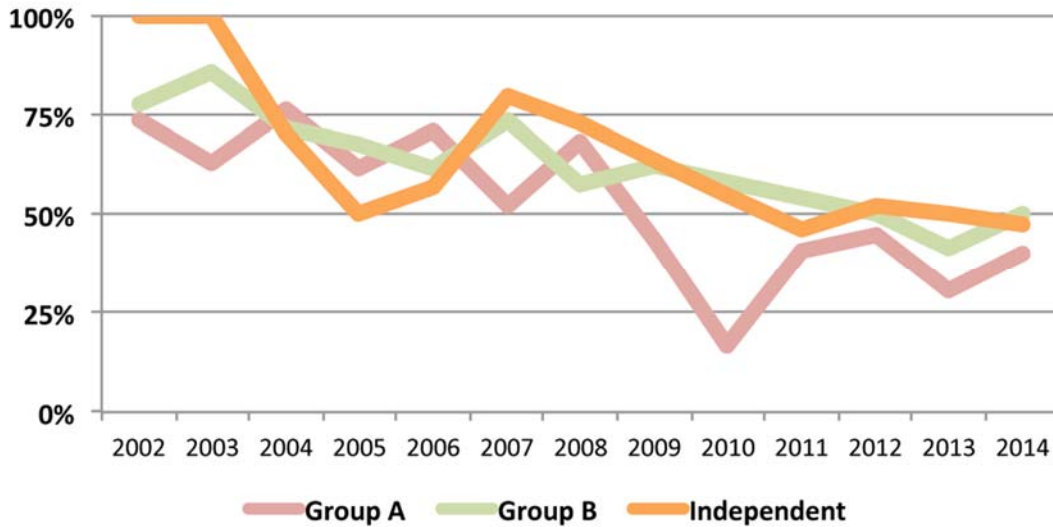
The six major studios control their trade group, the Motion Picture Association of America, and the rating system it co-manages with theater owners. Between 2004 and 2007, three of the major studios — Comcast (Universal), Disney, and Time Warner (Warner Bros.) — published individual corporate policies on tobacco depictions in their movies; we refer to this group of early-adopter companies as “MPAA Group A.” Between 2012 and 2013, the three other major studios — Fox, Sony, and Viacom (Paramount) — published similar corporate policies; we call these recent-adopter companies “MPAA Group B.”

So-called “independent” film companies such as Lionsgate, Relativity, and Weinstein do not belong to the MPAA. Together, independents account for a substantial share of the PG-13 and R-rated film market. From 2002 to 2014, one in four top-grossing films (448/1,853) was released by an independent. Over the same period, independents sold nearly as many tickets to PG-13 films (617 million) as Warner Bros., the top-ranked U.S. studio (660 million). No independent is known to

have published a corporate policy on tobacco depictions; we will call this sector without published policies “Independents.”

Figure 6 shows that MPAA Group A, MPAA Group B, and Independents traced essentially the same path in reducing the share of their PG-13 films that have tobacco imagery — until 2009 and 2010, when MPAA Group A dramatically reduced smoking in their PG-13 films. However, MPAA Group A rebounded in 2011 and closely matched the performance of the other two groups in the years 2012-2014.

**Fig 6 | Percent of PG-13 films with tobacco, by policy status (2002-2014)**



**Observation:** From 2002 to 2014, all groups of film companies reduced the share of their PG-13 films with tobacco from 75 percent or more to 50 percent or less. MPAA Group A companies, early adopters of studio policies on smoking in the movies, made substantial reductions by 2010 that other companies did not match, and then rebounded. Individual company performance displayed year-to-year variations in the percentage of their top-grossing PG-13 films with tobacco imagery:

#### **Group A**

- Disney (policy: 2004) made all of its PG-13 films smokefree in 2008, 2009, and 2010 before rebounding to 60 percent smoking (3/5 PG-13 films) in 2011. Its PG-13 films were again smokefree 2014.
- Time Warner (policy: 2005) reduced its share to 45 percent (5/11) by 2009 and 22 percent (2/9) in 2010 before rebounding to 44 percent (4/9) in 2012 and falling to 25 percent (2/8) in 2014.
- Comcast (policy: 2007), reduced its share to 50 percent (5/10) by 2009 and 17 percent (1/6) in 2010, but rebounded to 50 percent (3/6) in 2012. Two-thirds (6/9) of Comcast’s PG-13 films included smoking in 2014.

**Group B**

- ☐ Fox's (policy: 2012) share of its PG-13 films with tobacco fell from 78 percent (7/9) in 2002 to 38 percent in 2006 (5/13), rebounded to 73 percent (8/11) in 2009, fell again to 33 percent (2/6) in 2013, and rose to 57 percent (4/7) in 2014, two years after publishing its policy.
- ☐ Sony (policy: 2012) gradually brought the percentage of its PG-13 films with smoking down from 88 percent (7/8) in 2007 to 57 percent (4/7) in 2013. Sony's share increased to an industry-high 71 percent (5/7) in 2014.
- ☐ Viacom (policy: 2013) dropped its percentage of PG-13 films with smoking from 75 percent (6/8) in 2008 to 17 percent (1/6) in 2009. The company bounced back to 75 percent smoking (3/4) the next year but declined to 25 percent by 2013 (1/4) and 2014 (2/8).

**Independents**

- ☐ A handful of independent film companies release at least one top-grossing film in any given year. As a sector, all independent PG-13 films included smoking in 2002 (11/11) and 2003(13/13). The majority of such films (54%, 7/13) were first smokefree in 2011. About the same share of independent PG-13 films included smoking in 2014 (46%, 9/19), the average for the US film industry as a whole.

**Table 2 | Tobacco incidents per PG-13 film, by company (2010-2014)**

	2010	2011	2012	2013	2014	Change 2010-14
<b>Group A: Early Policy Adopters</b>						
Comcast	3	8	6	8	19	+ 507%
Disney	0	30	34	11	0	—
Time Warner	<1	9	29	28	2	+ 350%
<b>Group B: Recent Policy Adopters</b>						
Fox	12	29	41	<1	14	+ 20%
Sony	17	14	18	3.7	26	+ 59%
Viacom	29	8	18	3.0	8	- 71%
Independents	12	2	12	16	33	+ 174%
<b>TOTAL</b>	11	12	19	13	19	+ 79%

**Observation:** Comcast, Disney, and Time Warner (Group A) came close to eliminating smoking in their PG-13 films in 2010 and two of the companies (Disney and Time Warner) did so again in 2014. Independents approached zero smoking in their PG-13 films in 2011. Fox, Sony, and Viacom (Group B) achieved sharp reductions in 2013, after publishing smoking depiction policies in 2012-13, but rebounded sharply in 2014. The average number of

tobacco incidents in all top-grossing PG-13 films increased nearly 80 percent (79%, 10.7/19.1) from 2010 to 2014.

Table 2 shows that it is feasible for both MPAA-member companies and independents to eliminate practically all tobacco imagery from their PG-13 films, as they have done from other youth-rated films. However, substantial rebounds in tobacco incidents per PG-13 film in years after individual companies publish their policies on tobacco depictions indicate that these policies cannot be relied upon to protect young audiences on a continuing basis.

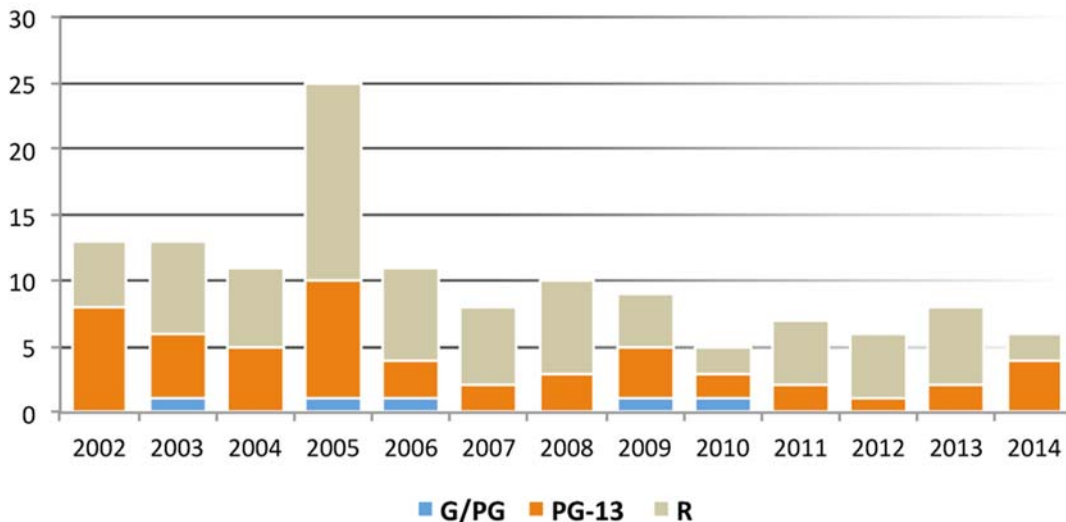
## TOBACCO BRAND DISPLAY

Exposure to on-screen smoking promotes young people to smoke whether the film displays a specific tobacco brand or not. At the same time, tobacco companies have competed for decades to cross-promote and place their brands in Hollywood films.

From the 1920s to the 1940s, a period in which all brand placement was banned by the forerunner of the Motion Picture Association of America, tobacco companies bartered with major studios to use their contract stars in national cigarette advertising campaigns. These campaigns intentionally linked Lucky Strike, Chesterfield, and other cigarette brands with the actors' smoking on screen.<sup>9</sup>

After tobacco ads were barred from TV and radio in 1970, and Hollywood lifted prohibitions on product placement, tobacco companies launched systematic, covert brand placement campaigns with film studios and producers, touching many youth-rated films.<sup>10</sup> Tobacco industry documents show that US tobacco companies continued to retain product placement agents until at least 1994. From the late 1980s onward, it appears that tobacco companies failed to report their product placement-related expenses to the Federal Trade Commission, as required.<sup>11</sup> To this day, tobacco brands persist on screen (Fig 7).<sup>12</sup>

**Fig 7 | Films that showed tobacco brands (2002-2014)**



**Observation:** In 2014, for the first time since 2002, more youth-rated films displaying or mentioned tobacco brands than R-rated films (2002: 8 vs. 5; 2014: 4 vs. 2). In 2014, the share of youth-rated films with smoking that also displayed tobacco brands (13%) was nearly equal to the share in 2002 (14%) and twice the share in 2013 (7%).

Overall, the percentage of films showing tobacco brands declined from 15 percent in the five-year period 2002-2006 to 10 percent in the five year period 2010-2014. However, from 2010 to 2014, the percentage of films with brands grew nearly 30 percent (from 8.1% to 10.3%).

## **CONCLUSION**

The US film industry has known for more than a decade that their films with smoking put young audiences at substantial risk of addiction, disease and premature death. So far, the industry's response has been temporizing and inadequate. Progress has been moderate at best and has frequently reversed. As the share of PG-13 films with smoking has declined, the amount of smoking in PG-13 films with any smoking has increased. Young audiences in the United States are still exposed to billions of tobacco impressions annually. Growing audiences in other countries, where Hollywood generates most of its revenue today, are also at well-documented risk. Policies governing the film rating system in the US are established and enforced by the major studios through their trade association, the MPAA, with the concurrence of the large theater chains. Updating the existing rating system to R-rate tobacco imagery is the only evidence-based method available to set a transparent, enforceable, and uniform standard that protects young people from toxic tobacco exposure on screen.

## Funding

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## References

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- <sup>4</sup> 0.37 attributable risk applied to 17,371,900 projected smokers among Americans 0-17 today. Source for projected smokers: U.S. Department of Health and Human Services. The health consequences of smoking — 50 years of progress: A report of the Surgeon General. Table 12.2.1 Prevalence of current smoking among adults, 18–30 years of age, and projected number of persons, 0–17 years of age, who will become smokers and die prematurely as adults because of a smoking-related illness, by state — United States, 2012. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. 2014. Available at [www.surgeongeneral.gov/library/reports/50-years-of-progress/](http://www.surgeongeneral.gov/library/reports/50-years-of-progress/)
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- <sup>6</sup> Mortality rate is 0.32. Centers for Disease Control and Prevention. Projected smoking-related deaths among youth—United States. *Morbidity and Mortality Weekly Report* 1996;45(44): 971–4. Available at [www.cdc.gov/mmwr/preview/mmwrhtml/00044348.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/00044348.htm)
- <sup>7</sup> US Department of Health and Human Services (2014)
- <sup>8</sup> US Department of Health and Human Services (2014)

<sup>9</sup> Lum et al (2008)

<sup>10</sup> Mekemson C, Glantz SA. How the tobacco industry built its relationship with Hollywood. *Tobacco Control* 2002;11:i81-i91. Available at [tobaccocontrol.bmj.com/content/11/suppl\\_1/i81.full](http://tobaccocontrol.bmj.com/content/11/suppl_1/i81.full)

<sup>11</sup> Based on tobacco company documents related to expenditures on and arrangements for product placement in films, compared with copies of “Special Reports” on marketing expenditures the companies submitted to the Federal Trade Commission. This documentation is catalogued and annotated at [www.smokefreemovies.ucsf.edu/problem/bigtobacco.html](http://www.smokefreemovies.ucsf.edu/problem/bigtobacco.html)

<sup>12</sup> For more detail on tobacco brand display in films after 2002, see: Polansky JR, Titus K, Lanning N, Glantz SA. *Smoking in top-grossing US Movies, 2013*. University of California, San Francisco, Center for Tobacco Control Research and Education. 2014. Available at [www.escholarship.org/uc/item/1n74f4x1](http://www.escholarship.org/uc/item/1n74f4x1)



## Appendix A | Harms and costs from continuing exposure to on-screen smoking

	Projected smokers (age 0-17)[1]	Attributable to exposure to on-screen smoking			
		Projected smokers (age 0-17)[2]	Estimated tobacco deaths [3]	Lifetime medical costs (millions)[4]	Through age 50 (millions)[4]
<b>Total US</b>	17,371,900	6,451,000	2,083,000	\$40,725	\$62,400
<b>Alabama</b>	336,200	125,000	40,000	\$800	\$1,200
<b>Alaska</b>	43,600	17,000	6,000	\$100	\$150
<b>Arizona</b>	359,800	134,000	43,000	\$850	\$1,300
<b>Arkansas</b>	214,700	80,000	26,000	\$500	\$775
<b>California</b>	1,376,800	510,000	164,000	\$3,225	\$4,950
<b>Colorado</b>	283,200	105,000	34,000	\$675	\$1,025
<b>Connecticut</b>	175,400	65,000	21,000	\$400	\$625
<b>DC</b>	22,300	9,000	3,000	\$50	\$75
<b>Delaware</b>	53,700	20,000	7,000	\$125	\$200
<b>Florida</b>	844,500	313,000	100,000	\$1,975	\$3,025
<b>Georgia</b>	637,500	236,000	76,000	\$1,500	\$2,300
<b>Hawaii</b>	67,000	25,000	8,000	\$150	\$250
<b>Idaho</b>	94,300	35,000	12,000	\$225	\$350
<b>Illinois</b>	720,100	267,000	86,000	\$1,700	\$2,575
<b>Indiana</b>	471,100	175,000	56,000	\$1,100	\$1,700
<b>Iowa</b>	172,100	64,000	21,000	\$400	\$625
<b>Kansas</b>	191,200	71,000	23,000	\$450	\$675
<b>Kentucky</b>	371,700	138,000	45,000	\$875	\$1,325
<b>Louisiana</b>	307,400	114,000	37,000	\$725	\$1,100
<b>Maine</b>	84,300	32,000	10,000	\$200	\$300
<b>Maryland</b>	288,900	107,000	35,000	\$675	\$1,050
<b>Massachusetts</b>	322,300	120,000	39,000	\$750	\$1,150
<b>Michigan</b>	666,500	247,000	79,000	\$1,550	\$2,400
<b>Minnesota</b>	319,000	119,000	38,000	\$750	\$1,150
<b>Mississippi</b>	213,900	80,000	26,000	\$500	\$775
<b>Missouri</b>	398,600	148,000	48,000	\$925	\$1,425
<b>Montana</b>	59,000	22,000	7,000	\$150	\$200
<b>Nebraska</b>	118,600	44,000	15,000	\$275	\$425
<b>Nevada</b>	128,700	48,000	16,000	\$300	\$450
<b>New Hampshire</b>	67,900	26,000	9,000	\$150	\$250
<b>New Jersey</b>	445,800	165,000	53,000	\$1,050	\$1,600
<b>New Mexico</b>	124,500	47,000	15,000	\$300	\$450
<b>New York</b>	873,900	324,000	104,000	\$2,050	\$3,150
<b>North Carolina</b>	562,500	209,000	67,000	\$1,325	\$2,025
<b>North Dakota</b>	43,400	17,000	6,000	\$100	\$150
<b>Ohio</b>	809,800	300,000	96,000	\$1,900	\$2,900
<b>Oklahoma</b>	275,600	102,000	33,000	\$650	\$1,000
<b>Oregon</b>	213,400	79,000	26,000	\$500	\$775
<b>Pennsylvania</b>	761,500	282,000	91,000	\$1,775	\$2,725
<b>Rhode Island</b>	48,700	19,000	6,000	\$125	\$175
<b>South Carolina</b>	322,900	120,000	39,000	\$750	\$1,150
<b>South Dakota</b>	65,700	25,000	8,000	\$150	\$225
<b>Tennessee</b>	391,400	145,000	47,000	\$925	\$1,400
<b>Texas</b>	1,557,800	577,000	185,000	\$3,650	\$5,600
<b>Utah</b>	120,800	45,000	15,000	\$275	\$425
<b>Vermont</b>	31,500	12,000	4,000	\$75	\$125
<b>Virginia</b>	469,800	174,000	56,000	\$1,100	\$1,700
<b>Washington</b>	324,900	121,000	39,000	\$750	\$1,175
<b>West Virginia</b>	147,900	55,000	18,000	\$350	\$525
<b>Wisconsin</b>	332,000	123,000	40,000	\$775	\$1,200
<b>Wyoming</b>	37,800	14,000	5,000	\$100	\$125

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Note 1 | [The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General](#). Table 12.2.1 Prevalence of current smoking among adults, 18–30 years of age, and projected number of persons, 0–17 years of age, who will become smokers and die prematurely as adults because of a smoking-related illness, by state — United States, 2012. 17 January 2014. US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, Atlanta, Ga.

Note 2 | Attributable risk 0.37 (95% CI 0.25-0.52). Glantz SA. [Updated attributable risk for smoking due to movies: 37%](#). Blog entry 19 August 2012. UCSF Center for Tobacco Control Research and Education.

Note 3 | Mortality rate is 0.32. Centers for Disease Control and Prevention. [Projected smoking-related deaths among youth—United States](#). Morbidity and Mortality Weekly Report 1996;45(44): 971–4.

Note 4 | \$6,334 total additional medical cost per new smoker. \$9,708 additional medical cost through age 50 per new smoker (because smokers die younger). Glantz SA. [The cost of a new smoker](#). 10 October 2014. Discounted present value of future medical costs of a 24 year old smoker based on values in Tables 5.6 and 11.2 of *The Price of Smoking*, by Frank Sloan, et al. (Cambridge, MA, MIT Press, 2004) adjusted to August 2014 prices using the Medical CPI. See also: Sloan FA, Ostermann J, Conover C, Taylor DH, Picone G. [The price of smoking](#). November 2004. MIT Press, Boston.

This table is available as a CSV file for download at [smokefreemovies.ucsf.edu/5-policy-solutions/harm-and-costs-movie-smoking](https://smokefreemovies.ucsf.edu/5-policy-solutions/harm-and-costs-movie-smoking)