# Smoking in top-grossing US movies

# 2018

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## SUMMARY of FINDINGS

**Movies with smoking, tobacco incidents, and audience impressions**

• In 2018, smoking in PG-13 *purely fictional* movies fell to an all-time low (since 2002), measured in number of smoking movies, tobacco incidents or tobacco impressions delivered to moviegoers.

• However, smoking incidents in PG-13 biographical dramas began to climb in 2012-13, which has kept smoking on screen at high levels.

• Overall, top-grossing youth-rated (G/PG/PG-13) movies with smoking declined by 58 percent from 2002 to 2018. The number of such films in 2018 was 8 percent higher than the historic low in 2016.

• Because of the rising number of heavy-smoking biographical dramas, tobacco incidents in 2018 youth-rated films matched 2002 levels. Incidents in 2018 were more than twice the historic low in 2010.

• Total in-theater tobacco impressions delivered by youth-rated movies declined 44 percent from 2002 to 2018. However, youth-rated impressions in 2018 were triple their historic low in 2015.

**Movie company performance**

• In 2018, Comcast, with more than four billion youth-rated tobacco impressions, and Fox, with five billion, accounted for nearly ninety percent of tobacco impressions delivered by youth-rated movies.

• In 2018, both Disney and Viacom kept all of their youth-rated movies entirely smokefree, the first year since at least 2002 that two major studios have done so.

**Exaggerated smoking in biographical dramas**

• Biographical dramas comprised nearly half of all PG-13 movies with smoking in 2018. Biographical dramas accounted for more than eighty percent of PG-13 tobacco incidents and delivered ninety percent of PG-13 tobacco impressions.

• PG-13 biographical dramas with smoking grew from seven percent of all PG-13 films with smoking in the 2002-12 period to 26 percent in the 2013-18 period. Biographical dramas accounted for thirteen percent of PG-13 tobacco incidents in the 2002-12 period but accounted for more than half of PG-13 incidents in the 2013-18 period — including 82 percent of the 1,241 incidents in 2018.

• Throughout the survey period and in 2018, 73 percent of characters shown smoking in biographical dramas, across all ratings, were invented or composite characters with no authentic biographical basis.

**E-cigarettes in movies**

• Electronic cigarettes first appeared in US movies in 2010. The number of movies with e-cigarettes, the majority of them R-rated, peaked in 2017. No e-cigarettes appeared in 2018 movies.

**Policies to reduce youth exposure**

• In 2012, the US Surgeon General concluded that exposure to onscreen smoking caused youth to start smoking. Millions of those recruited to smoke by movies will die prematurely from tobacco-induced diseases.

• Only the proposed R-rating, covering all companies and all movies on all distribution platforms, will protect children and adolescents from the promotional effects of onscreen smoking.

• Studios appear to have taken advantage of the proposed exception to the R-rating for *actual historical figures who actually smoked* to pack biographical dramas with fictional smoking characters and an exaggerated number of tobacco incidents. Implementation of this exception should be carefully monitored to make sure this abuse does not continue.

## 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 cigarettes.[1] In 2012, after reviewing the scientific evidence, the US Surgeon General concluded that exposure to smoking on screen *causes* kids to smoke.[2]

**Harm from movie smoking** | Exposure to on-screen smoking is a major factor in smoking initiation. Based on large-scale US studies of exposure effects,[3] the US CDC estimated in 2014 that movies will recruit 6.4 million new US smokers from among children.[4] Almost 90 percent of those recruited to smoke by on-screen exposure start smoking before age 18.[5] Two million of them will ultimately die from tobacco-induced diseases, including heart disease, lung cancer, stroke, and emphysema.[6] One million of these deaths will be from exposure to smoking in movies that the MPAA rates as appropriate for youth (G/PG/PG-13).

The encouraging news is that reducing kids' exposure to on-screen smoking will reduce kids' risk of smoking. In January 2014, the US Surgeon General reported that eliminating smoking from youth-rated movies by R-rating future movies with tobacco imagery would cut the impact on kids in half, reducing teen smoking rates by 18 percent.[7] Doing so would avert one million of the 5.6 million projected future tobacco deaths among children alive today.[8]

**Widely-endorsed policy solutions** | The rating for a movie is routinely determined as part of the marketing plan for a movie before it is made, so film producers already calibrate screenplays, movie direction, and editing to achieve the rating desired for marketing purposes. The MPAA rating system does not reflect the current scientific evidence that exposure to onscreen smoking is toxic to youth. A modernized movie rating system would award an R-rating for any smoking exposure based on the Surgeon General's conclusion that onscreen smoking causes youth smoking. This conclusion was reached before the explosion in e-cigarette use among youth. *Any* tobacco use, including e-cigarettes, should trigger an R-rating.

An updated R-rating that includes smoking, e-cigarettes, and other tobacco use would supply the same market incentive as today's R-rating exerts on strong language, grisly violence, and sexualized nudity. With an R-rating for smoking, filmmakers would remain free to include smoking in any movie they want, just as they are currently able to include strong language, grisly violence, and sexualized nudity, knowing that doing so will trigger an R-rating. All the R-rating for smoking will do is to keep tobacco imagery *out* of films that media companies market to kids.

The modernized R-rating for tobacco would exempt movies that portray tobacco use by actual people who actually used tobacco, such as the subject of a biographical drama or documentary.[9] (This exception does not extend to tobacco use by composite or wholly invented characters in biographical dramas, or by uncredited extras.) Any genre of movie that realistically depicts the health consequences of tobacco use could also be exempted from the R-rating.

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

(1) strong anti-tobacco spots before movies with smoking, in any medium;[10]

(2) producers' certifying that no one associated with their film production entered into any agreement related to tobacco's on-screen presence;[11]

(3) ending all tobacco brand display on screen;[12]

(4) making media productions with smoking ineligible for public subsidies.[13]

These policies have been endorsed by the US Centers for Disease Control and Prevention, the World Health Organization, the WHO Framework Convention on Tobacco Control,[14] the Los Angeles County Department of Public Health, and leading national health and medical organizations.

**Hollywood's response** | In December 2003, at a meeting convened by the major movie studios' trade association, the Motion Picture Association of America, leading US movie companies were put on notice that they needed to eliminate youth exposure to smoking on screen.[15]

In 2007, in response to repeated requests from state attorneys general,[16] the MPAA itself commissioned Harvard School of Public Health to recommend film industry measures to address this serious public health problem.[17] Harvard recommended to the MPAA: "Take substantive and effective action to eliminate the depiction of tobacco smoking from movies accessible to children and youths."[18] Harvard continued, "What's needed is a movie ratings policy that creates an incentive for moviemakers to consider, and worry about, the depiction of smoking as a factor in the determination of a film's rating … [T]he goal should be the elimination (with rare exceptions) of smoking in youth-rated films."[19]

Despite mounting evidence of harm, the advice of its own invited expert consultants, and public calls for action, the US movie industry took only modest steps and ignored the most important component of the solution: a modernized R-rating for smoking and other tobacco use.

- At their own expense, the six MPAA-member companies added State of California-produced anti-tobacco spots to their youth-rated DVDs with smoking between 2008 and 2014;[*]

- Between 2005 and 2007, three MPAA-member companies — Disney, Warner Bros., and Universal — published corporate policies related to tobacco depictions. The other three MPAA-member companies — Fox, Sony, and Paramount — followed in 2012 and 2013.

- While most of these policies prohibit tobacco product placement deals with the studios themselves, none extend that stipulation to, or require certification of no payoffs from, the production companies the studios hire to make the movies that the studios develop, finance, promote, and distribute.

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[*] Time Warner (Warner Bros.) suspended its agreement with California in 2011; the others soon lapsed.

• Subjective language in most company policies allows any youth-rated movie to justify inclusion of tobacco imagery. Also, none of the policies prohibits tobacco brand display in the movies these companies produce or distribute.

• From 2007 through 2018, the MPAA has added small-print "smoking" labels to 11 percent of all top-grossing, youth-rated movies with smoking.

**What is the US film industry really doing?** | Since 2002, the University of California, San Francisco has collaborated with Breathe California Sacramento Region to analyze onscreen smoking data in the Breathe California Onscreen Tobacco Database.* The database methodically records tobacco incidents in movies (shots of tobacco use or implied use within each scene) along with tobacco brand appearances and who uses tobacco in movies. Film production details, including media companies, producers, directors, actors, production budgets and box office results, are obtained from entertainment industry publications and databases.

This report analyzes data from the 2,429 top-grossing movies released in the domestic market (US and Canada) from 2002 to 2018. Top-grossing movies are those that ranked among the top ten movies in box office gross in any week of their first-run theatrical release. This analysis addresses six questions, by movie rating and by the company responsible for producing and distributing these movies:

1) What share of youth-rated movies feature tobacco imagery? (Fig 1)

2) How many tobacco incidents feature in youth-rated movies? (Figs 2-4)

3) How much tobacco exposure do moviegoers receive? (Fig 5)

4) How does tobacco performance vary by company? (Figs 6-8, Tables 1-2)

5) Is all smoking in biographical dramas for real? (Figs 9-13, Tables 3-5)

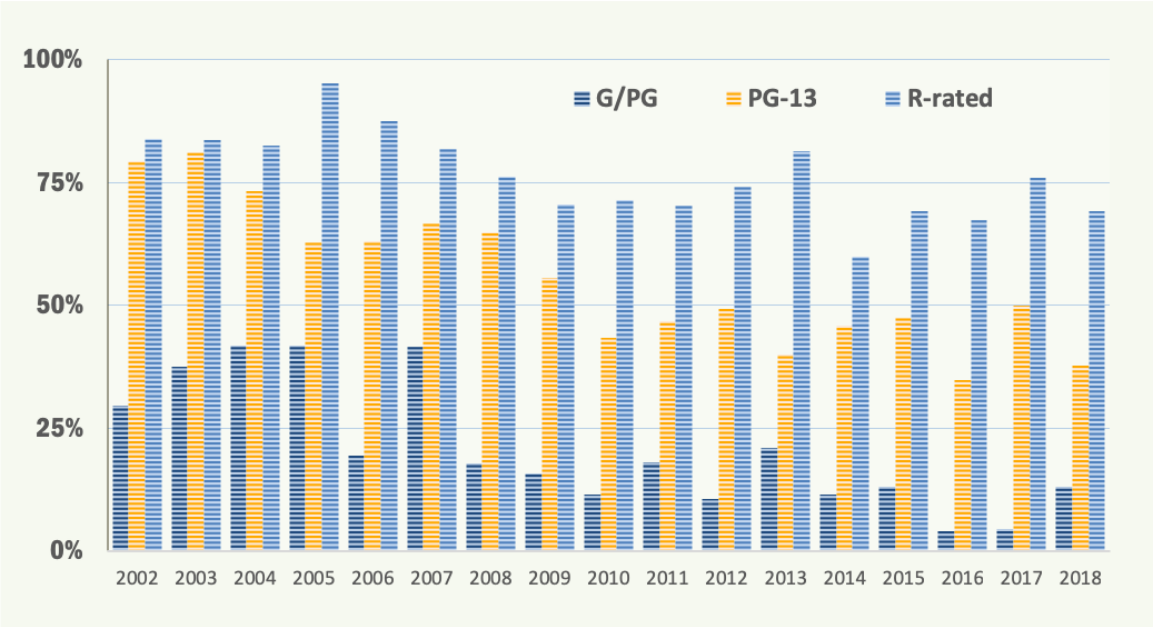
6) Are e-cigarettes showing up in more movies? (Fig 14)

The report Appendices tabulate top-grossing movies with smoking, tobacco incidents, and tobacco impressions, 2002-2018, by company, MPAA rating, and genre: purely fictional movies, biographical dramas, and documentaries.

* The Breathe California-UCSF Onscreen Tobacco Database is publicly accessible at smokefreemovies.ucsf.edu/search/movies.

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

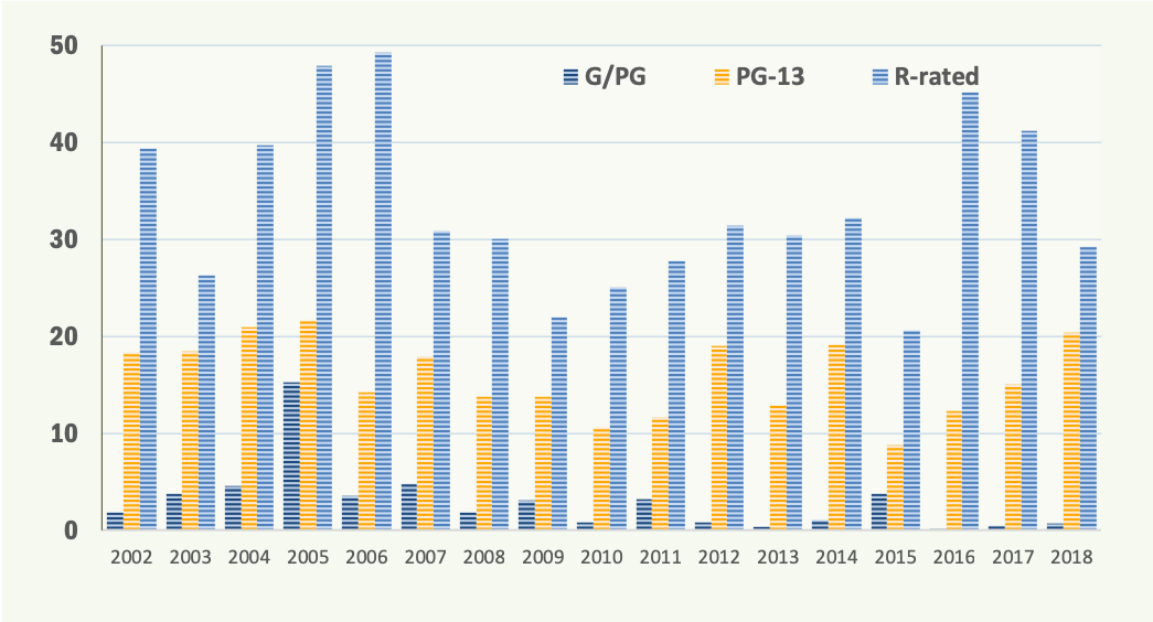
**Fig 1 | Percentage of G/PG, PG-13 and R-rated movies with tobacco** (2002-18)




**Observation:** From 2002 to 2018, the percentage of youth-rated (G/PG/PG-13) movies depicting tobacco fell from 65 percent to 31 percent. Even so, in 2018, nearly 40 percent of PG-13 movies (23 of 61) still featured tobacco.

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

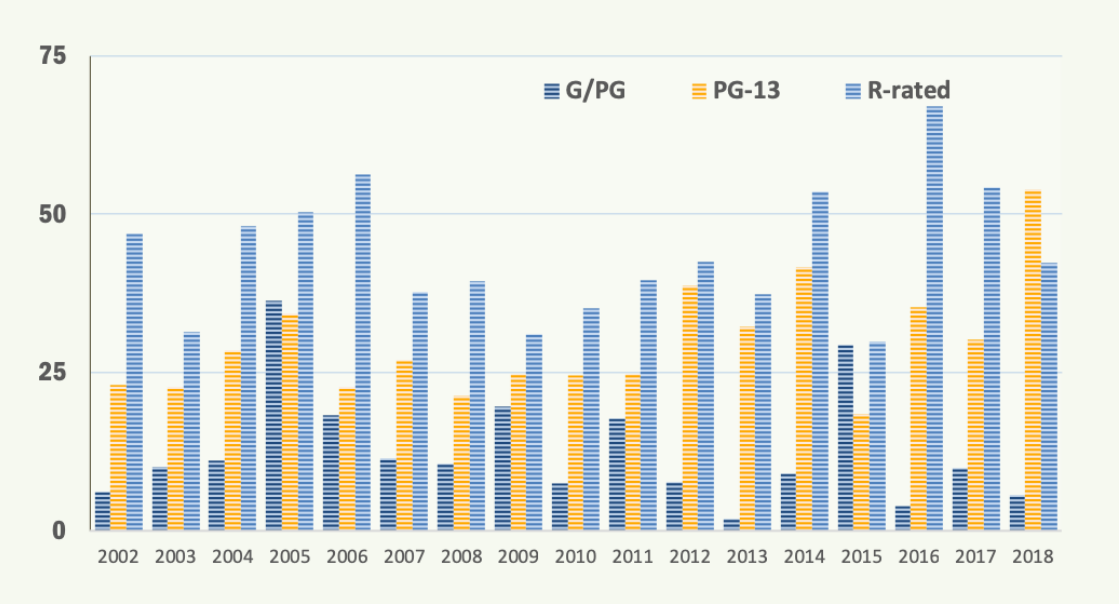
**Fig 2 | Tobacco incidents per movie** (2002-18)




**Observation:** G/PG movies averaged fewer than one incident per movie in 2018, as they have often done since 2010. PG-13 movies averaged twenty

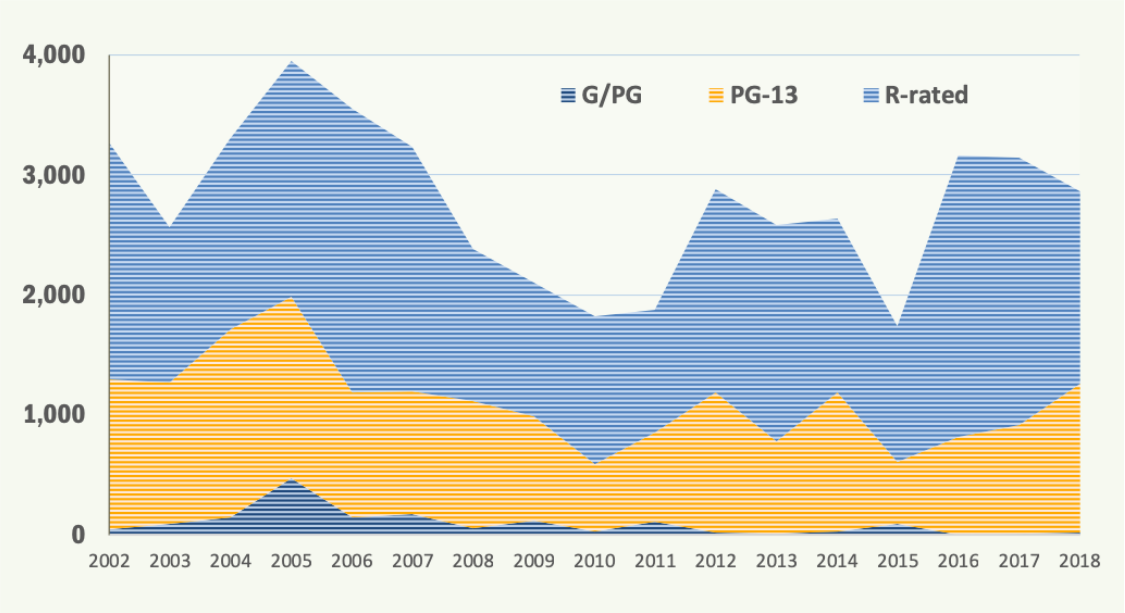
incidents per movie in 2018, double their historic low of nine incidents in 2015. R-rated movies averaged 29 incidents, 42 percent above their historic low of 21 incidents in 2015. (To account for fluctuations in the number of movies released annually, tobacco incidents are divided by the total number of movies in each rating class.)

**Fig 3 | Tobacco incidents per movie with any smoking** (2002-18)




**Observation:** Tobacco incidents per G/PG movie *with any smoking* in 2018 were three times their historic low of two incidents per movie in 2013. Tobacco incidents per PG-13 movie with any smoking averaged 54 incidents in 2018, their highest level since at least 2002. R-rated movies with any smoking averaged 42 incidents, substantially above their historic low of 30 incidents in 2015.

**Fig 4 | Total tobacco incidents** (2002-18)

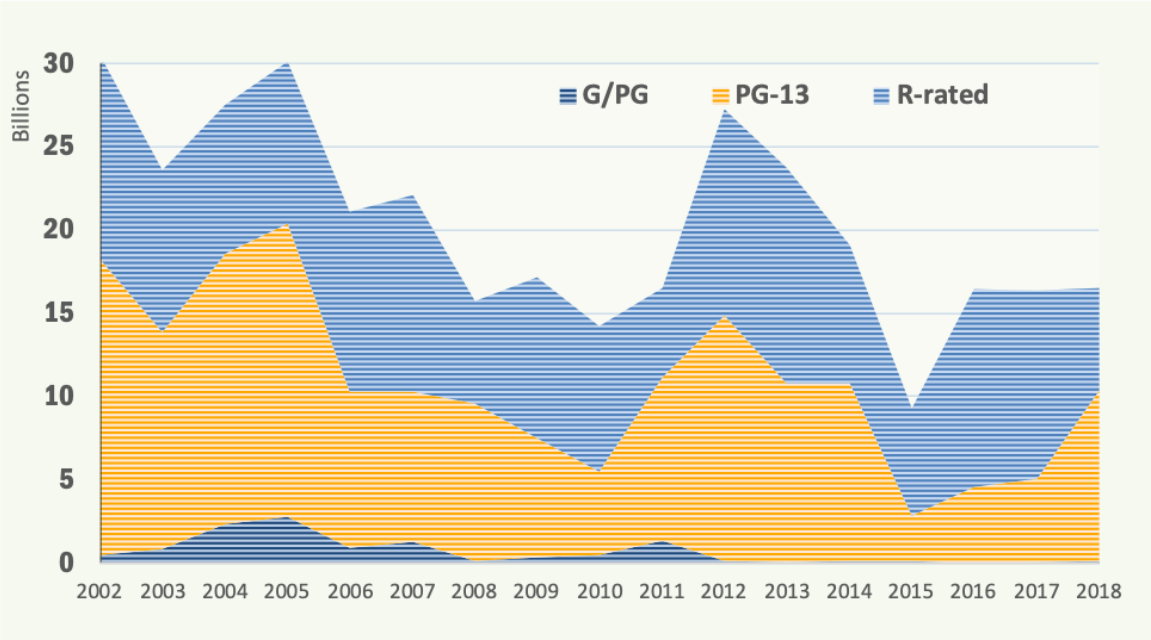


**Observation:** The total amount of smoking in top-grossing movies reached an historic low in 2015 (1,743 incidents) but rebounded to 3,163 incidents in 2016 and only dropped slightly in 2018 (2,868 incidents). The total number of tobacco incidents increased substantially in PG-13 movies: more than doubling from an historic low of 519 incidents in 2015 to 1,241 incidents in 2018, the highest level since 2005. Tobacco incidents in R-rated movies declined somewhat to 1,610 from their 2016-17 levels but were still substantially higher than their historic low of 1,029 incidents in 2011.

**Incident trends in youth-rated movies** | As Figure 4 suggests, there was a strong downward trend in the number of tobacco incidents in youth-rated movies between 2005 and 2010, but youth-rated tobacco incidents rebounded from 2010 through 2018. Had the average annual rate of decline in tobacco incidents observed 2005-2010 been maintained, tobacco incidents would have vanished from all youth-rated movies by early 2015.*

## 3 | How much exposure do moviegoers receive?

**Fig 5 | Billions of in-theater tobacco impressions** (2002-18)




**Observation:** In-theater tobacco impressions measure audience exposure, obtained by multiplying tobacco incidents in a movie by the number of viewings (paid admissions).† Total tobacco impressions from youth-rated movies more

* The statements about there being a significant decline between 2005 and 2010 but not between 2010 and 2018 is based on fitting linear regressions to the number of incidents in youth-rated films separately. The projection of reaching zero incidents in early 2015 (2015.3) is based on a regression model that allows for a linear decrease between 2005 and 2010 and then a constant value for 2010 and beyond.

† Only *in-theater* impressions can be calculated because *in-home* viewership data for individual films are not publicly available. In-theater impressions are an index of total exposure. The British Film Institute (2016)

than tripled to 10.3 billion in 2018 from their historic low of 2.9 billion in 2015. On average, a youth-rated movie with smoking delivered 398 million tobacco impressions to domestic theater audiences in 2018, more than four times the historically low 92 million impressions such movies delivered in 2015.

**Is audience size a factor?** Tobacco impressions have two components: tobacco incidents in a movie and paid admissions to the movie (Incidents X Views). While an often-reported decline in total movie theater admissions might contribute to fewer tobacco impressions, the data indicate that the decline has been confined to films from *independent* producer-distributors. While admissions per top-grossing independent film dropped 74 percent (11.3 million to 3.0 million) from 2002 to 2018, admissions per *major studio* film increased by 13 percent (from 10.1 million to 11.5 million).[*]

The substantial decline in youth-rated tobacco impressions after 2012 (Fig. 5) was mainly due to the major studios' reducing tobacco *incidents* in their larger-budget (>$80 million) "franchise" movies.[20] However, this decline reversed in 2016, due to a surge in smoking in PG-13 movies from two major studios (see Section 5, below).

## 4 | Tobacco performance varies by company

**Major studios vs. independents** | The *major studios* (MPAA-member companies) accounted for 73 percent (526 of 718) of all top-grossing, youth-rated movies with tobacco and 74 percent (14,004 of 18,957) of youth-rated tobacco incidents between 2002 and 2018. Major studio movies also delivered 84 percent (155 billion of 185 billion) of youth-rated tobacco impressions to theater audiences.

The balance of tobacco imagery and exposures was delivered by movies from *independent movie companies* (non-MPAA members). As a group, independents release more top-grossing movies annually than any one of the major studios. However, on average, independents' youth-rated movies attract half the theater audience of major studio movies, which typically have larger production and advertising budgets (6.1 million admissions per independent movie vs. 12.2 million admissions per major studio movie, 2002-2018). At the same time, independents' youth-rated movies have averaged 25 percent more tobacco imagery: 14.2 incidents per independent movie vs. 11.4 incidents per major-studio movie. 2018 did not follow this longer-term trend: major studio movies averaged more tobacco incidents than independents (16.1 vs. 11.6); two PG-13 movies from major studios included more than 150 tobacco incidents each.

From 2002 to 2018, the numbers of youth-rated movies with any smoking from MPAA member companies and from independent companies have converged (Fig 6). Since 2010, when the decline in major studios' youth-rated movies with smoking began to slow, independents have accounted for one-quarter of all top-

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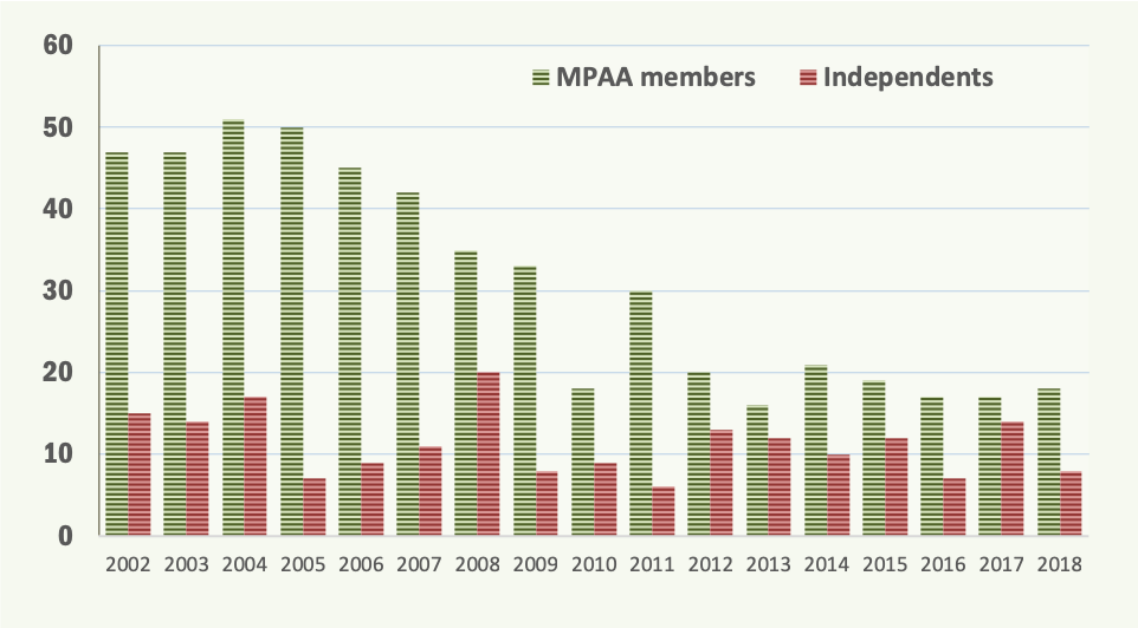
reports that (mainly US) films are viewed 17 times more often on terrestrial and cable/satellite video channels than in UK theaters and that video disc sales/rentals and digital streaming also exceed in-theater views.

[*] Admissions calculated as film's domestic theatrical gross [film industry databases] / avg. US ticket price in the film's release year [nato-online.org]. For 2018 films, grosses reported through March 26, 2019.

grossing, youth-rated movies (25%, 196 of 779 movies) but accounted for more than one-third of the movies with tobacco imagery (34%, 91 of 267 movies).

**Fig 6 | No. of youth-rated movies with smoking, by company type** (2002-18)




**Tobacco content and exposure vary by company** | A few companies account for all top-grossing movies released each year. Table 1 lists the six major film companies that controlled the Motion Picture Association of America in 2018 (MPAA-members)* and, considered as a group, the independent companies whose youth-rated movies achieved top-grossing status.

**Table 1 | Youth-rated movies with smoking, by company** (2017-18)

| | **Films** with smoking | | | **Tobacco incidents** | | | **In-theater impressions** (millions) | | |
|---|---|---|---|---|---|---|---|---|---|
| | **2017** | **2018** | **Change** | **2017** | **2018** | **Change** | **2017** | **2018** | **Change** |
| **Comcast** | 5 | 5 | 0% | 407 | 573 | +41% | 2,352 | 4,177 | +78% |
| **Disney** | 0 | 0 | 0% | 0 | 0 | 0% | 0 | 0 | 0% |
| **Fox** | 2 | 6 | +200% | 90 | 327 | +263% | 247 | 4,975 | +1,914% |
| **Sony** | 3 | 4 | +33% | 28 | 86 | +207% | 431 | 458 | +6% |
| **Time Warner** | 3 | 3 | 0% | 26 | 29 | +12% | 746 | 217 | -71% |
| **Viacom** | 4 | 0 | -100% | 98 | 0 | -100% | 891 | 0 | -100% |
| **Independents** | 14 | 8 | -43% | 266 | 243 | -9% | 421 | 519 | +23% |
| Total | 31 | 26 | -16% | 915 | 1,258 | +37% | 5,088 | 10,346 | +103% |

**Observation:** MPAA-member companies accounted for 55 percent (17 of 31) of *youth-rated movies with tobacco* in 2017 and 69 percent (18 of 26) in 2018.

* Disney's acquisition of Fox studio assets and AT&T's acquisition of Time Warner were underway by 2017 but not yet completed in 2018, so companies subject to acquisition are listed separately here.

Fox (with 6 films), Comcast (5 films) and independents (8 films) accounted for nearly three-quarters (73%, 19 of 26) of 2018 youth-rated movies with smoking. Viacom (Paramount), with no smoking movies, and independents (-43%) showed the greatest decline in youth-rated movies with smoking from 2017 to 2018. Fox (200%) and Sony (33%) showed the largest increases. Comcast, Disney (with no smoking movies), and Time Warner did not change.

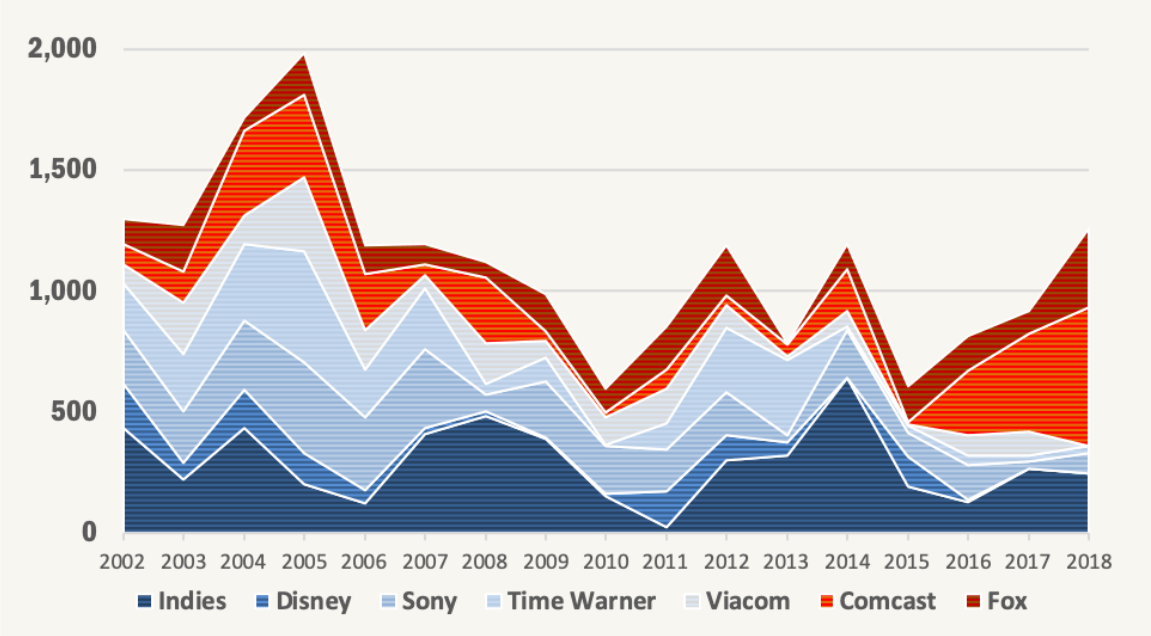
*Tobacco incidents in youth-rated movies* more than tripled at Fox and Sony from 2017 to 2018. Comcast and Time Warner had smaller increases. Viacom showed the largest decline, to zero.

*Youth-rated tobacco impressions* delivered to domestic audiences doubled from 2017 (5.1 billion) to 2018 (10.3 billion). Fox, on the eve of its acquisition by smokefree Disney, had the largest increase by far: Fox accounted for nearly half (48%, 5.0 billion of 10.3 billion) of all youth-rated tobacco impressions in 2018, followed by Comcast (40%, 4.2 billion of 10.3 billion), whose youth-rated impressions jumped by 78 percent. Together, Fox and Comcast delivered 88 percent of the year's youth-rated tobacco impressions.

Two other major studios — Disney and Viacom (Paramount) — delivered no tobacco exposure through their youth-rated movies, the first time since at least 2002 that more than one major studio kept all of its youth-rated movies smokefree.

**Impact of two major studios** | Analysis of company performance since 2002 finds that Comcast (Universal) and Fox are the only major media companies to have increased their tobacco incidents and tobacco impressions over the survey period.* Their tobacco incidents and impressions are shown, in red, in Figures 7 and 8.

**Fig 7 | Youth-rated tobacco incidents, by company** (2002-18)

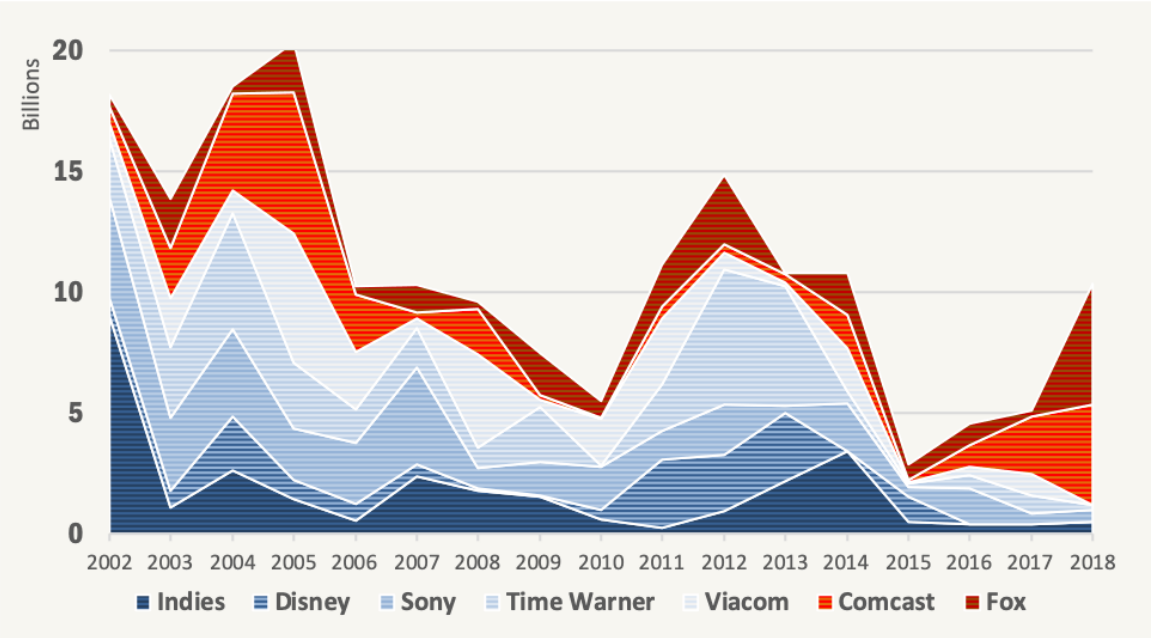



* Appendix A shows 2002-2018 data for MPAA-member companies and the independent sector.

**Observation:** Annual numbers of tobacco incidents in youth-rated movies fluctuated throughout the survey period but declined among independents and at four of the six MPAA-member companies: Disney, Sony, Time Warner, and Viacom (Paramount). Incidents increased at Comcast (Universal) and Fox; their share of all youth-rated incidents also grew, from 15 percent in 2002 (188 of 1,296 incidents) to 72 percent in 2018 (900 of 1,258 incidents).

Overall, youth-rated tobacco incidents declined just three percent from 2002 to 2018 (from 1,296 to 1,258 incidents). Absent Comcast and Fox, incidents would have declined by two-thirds (68%, from 1,108 to 358 incidents) and by 83 percent among MPAA-member companies (from 675 to 115 incidents).

**Fig 8 | Youth-rated tobacco impressions, by company** (2002-18)




**Observation:** Annual numbers of tobacco impressions in youth-rated movies fluctuated throughout the survey period but declined among independents and at four of the six MPAA-member companies: Disney, Sony, Time Warner, and Viacom (Paramount). Tobacco impressions increased at Comcast and Fox; their share of all youth-rated impressions also grew, from six percent in 2002 (1.2 billion of 18.2 billion impressions) to 88 percent in 2018 (9.2 billion of 10.3 billion).

Overall, youth-rated impressions declined 43 percent from 2002 to 2018 (from 18.2 billion to 10.3 billion). Absent Comcast and Fox, impressions would have declined by 93 percent (from 17.0 billion to 1.2 billion) and by 92 percent among MPAA-member companies (from 8.0 billion to 674 million impressions).

Figure 8 shows a similar spike by another MPAA member with a tobacco depictions policy: Time Warner's youth-rated impressions jumped from 15 million in 2010 into the billions from 2011 through 2013.

**Companies can reduce youth-rated tobacco content to zero or near-zero** | Table 2 highlights, in yellow, the years in which individual companies have eliminated all or nearly all (<3 incidents per movie, smoking and smokefree) tobacco imagery from their youth-rated movies. They managed to do so in 24 percent (13 of 54) of the company-years in the table. However, repeated rebounds since 2010 among companies with tobacco depictions policies indicate that individual policies do not reliably protect young audiences from on-screen tobacco exposure.

**Table 2 | Tobacco incidents per youth-rated movie, by company** (2010-18)

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|
| **Comcast** Universal | 2 | 6 | 4 | 7 | 17 | 1 | 18 | 37 | 36 |
| **Disney** | 1 | 11 | 8 | 6 | 0 | 11 | 1 | 0 | 0 |
| **Fox** | 6 | 14 | 19 | 1 | 8 | 10 | 14 | 9 | 41 |
| **Sony** | 14 | 10 | 14 | 3 | 18 | 9 | 13 | 3 | 9 |
| **Time Warner** | 1 | 8 | 26 | 26 | 2 | 3 | 4 | 3 | 2 |
| **Viacom** Paramount | 14 | 13 | 12 | 3 | 8 | 1 | 10 | 16 | 0 |
| **MPAA-members** | 6 | 10 | 14 | 8 | 9 | 7 | 10 | 12 | 16 |
| **Independents** | 10 | 1 | 12 | 14 | 27 | 10 | 6 | 9 | 12 |
| **TOTAL** | 7 | 9 | 13 | 10 | 14 | 7 | 9 | 11 | 15 |

## 5 | Tobacco use in biographical dramas

Biographical dramas are motion pictures depicting or dramatizing actual events and purporting to portray actual people. Because of the growing role that youth-rated biographical dramas play in exposing audiences to tobacco imagery, this report looks more closely at this genre of movies since 2002.

**Method** | We used production details in movie industry databases and trade publications to classify the 2,429 top-grossing movies released in the US from 2002 through 2018 into three genres: purely fictional movies (n=2,210), biographical dramas (n=189) and documentaries (n=30). We then analyzed these movies by their tobacco content and MPAA rating: G/PG, PG-13 and R-rated.

The Breathe California-UCSF Onscreen Tobacco Database provided the count of tobacco incidents and estimate of audience tobacco impressions for each movie; identified the smoking actors who were credited; and counted smoking background actors ("extras)," whom the industry does not credit. We used cast rosters and other reference material to distinguish credited actors shown smoking in biographical dramas who portrayed actual people from credited actors who played inauthentic characters, without any biographical basis, added to these movies. All background actors in biographical dramas were classed as inauthentic; all smokers shown in documentaries were classed as real people, whether or not they were individually identifiable.

**Relation to policy** | The widely-endorsed proposal to R-rate future movies with tobacco imagery, advocated since 2002, includes a possible exception for tobacco imagery that is “necessary to represent the smoking of a real historical figure" who actually smoked.[9] While MPAA members have not endorsed the R-rating for tobacco

imagery, each adopted its own tobacco depiction policy between 2007 and 2013. Disney, Fox, and Time Warner specifically include *biographical* exceptions; Comcast, Sony, and Viacom include looser rationales to include tobacco imagery in youth-rated movies. Policy excerpts:

> **Comcast** (2007): "Smoking incidents may be permitted in a youth-rated film only when there is a substantial reason for doing so."
>
> **Disney** (2015 revision): "Disney has determined not to depict cigarette smoking in movies produced by it after 2015…that are rated G, PG or PG-13, except for scenes that…depict a historical figure who may have smoked at the time of his or her life…"
>
> **Fox** (2013): "Where Fox is the lead or sole producer, we will seek to limit cigarette smoking and tobacco depiction in films that are not rated R or NC-17 to scenes in which smoking is part of the historical, biographical or cultural context of the scene or is important to the character or scene from a factual or creative standpoint…"
>
> **Sony** (2012): "[T]here will be a working presumption that youth-rated films produced and distributed in the United States shall not feature depictions of tobacco use unless there is a compelling creative justification that may include, but is not limited to, factors such as historical accuracy or an important tie to the creative context of the project and vision of the filmmaker."
>
> **Time Warner*** (2018 revision): "The Studios endeavor to reduce or eliminate depictions of smoking and tobacco products/brands in any theatrical feature film produced and distributed in the United States that is expected to be rated 'G.' 'PG' or 'PG-13,' unless (a) the depiction involves a character who is a literary or an actual historical figure known to have used tobacco products; (b) the depiction is otherwise warranted for reasons of compelling literary or historical accuracy; or (c) the depiction is part of a conspicuous anti-smoking reference."
>
> **Viacom** (2013): "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."[21]

**PG-13 biographical dramas are a growing source of onscreen smoking** | As discussed below, smoking in *purely fictional* PG-13 movies has dropped substantially, both in terms of numbers of movies with smoking and number of incidents. Smoking associated with PG-13 *biographical dramas*,* however, began to climb in 2012-13, which has kept smoking on screen at high levels. This shift coincided with the last major studios publishing their tobacco depiction polices and continued to grow through 2018. (Figures 9 and 10)

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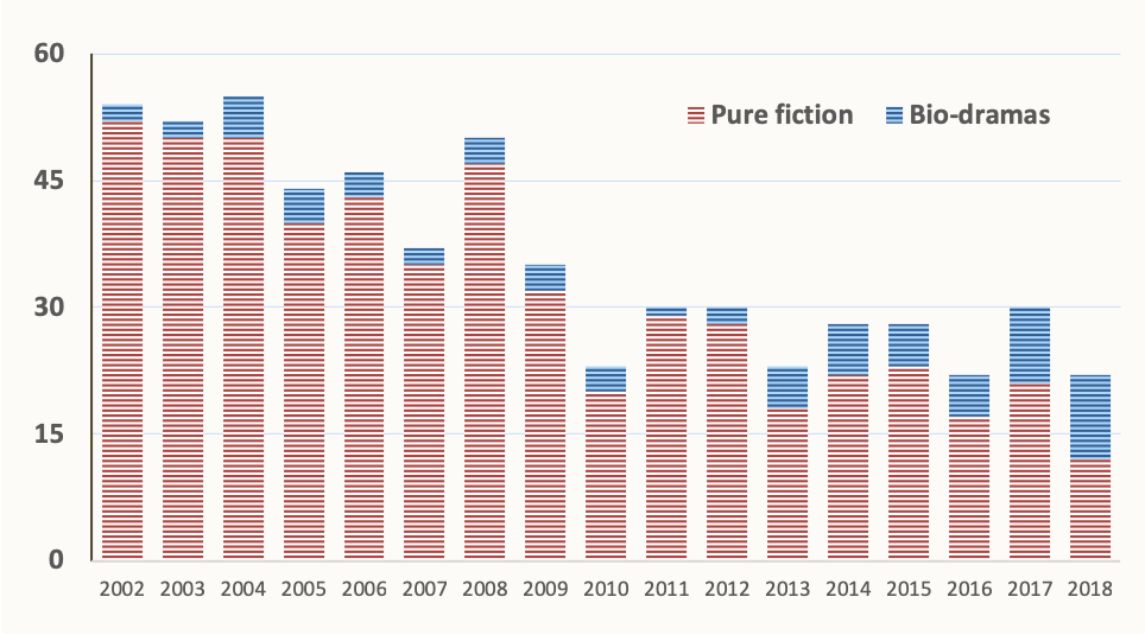
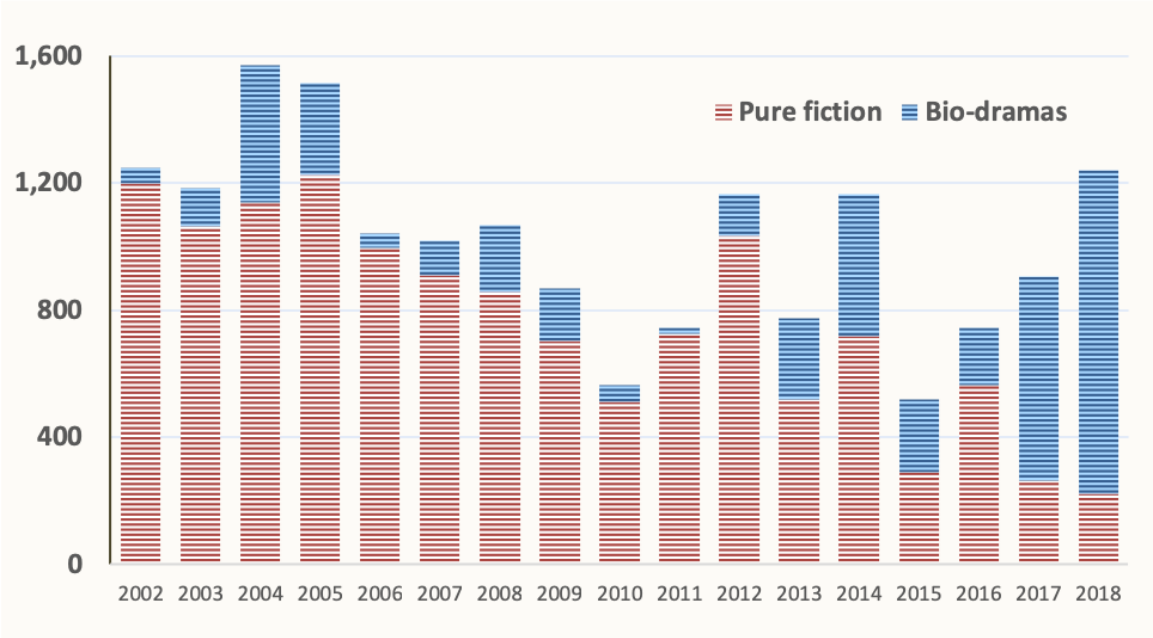
* This analysis focuses on PG-13 biographical dramas because G/PG films of any genre have very low levels of tobacco imagery and contribute trivial levels of audience exposure; documentary films also generate little audience exposure; and R-rated films are not in the policy frame. See summary data in Appendix B.

**Fig 9 | PG-13 purely fictional movies and bio-dramas with smoking** (2002-18)




**Observation:** The number of PG-13 *purely fictional* movies with smoking reached an all-time low in 2018, declining 77 percent from 2002 to 2018 (from 52 to 12 movies). However, PG-13 *biographical dramas* with smoking grew from seven percent (30 of 457 films) of all PG-13 films with smoking, in the 2002-12 period, to 26 percent (40 of 156 films) in the 2013-18 period. The surge in biographical dramas reduced the overall decline in PG-13 films with smoking to 57 percent (from 54 to 23 movies) over the survey period.

**Fig 10 | Tobacco incidents in PG-13 purely fictional movies and bio-dramas** (2002-18)

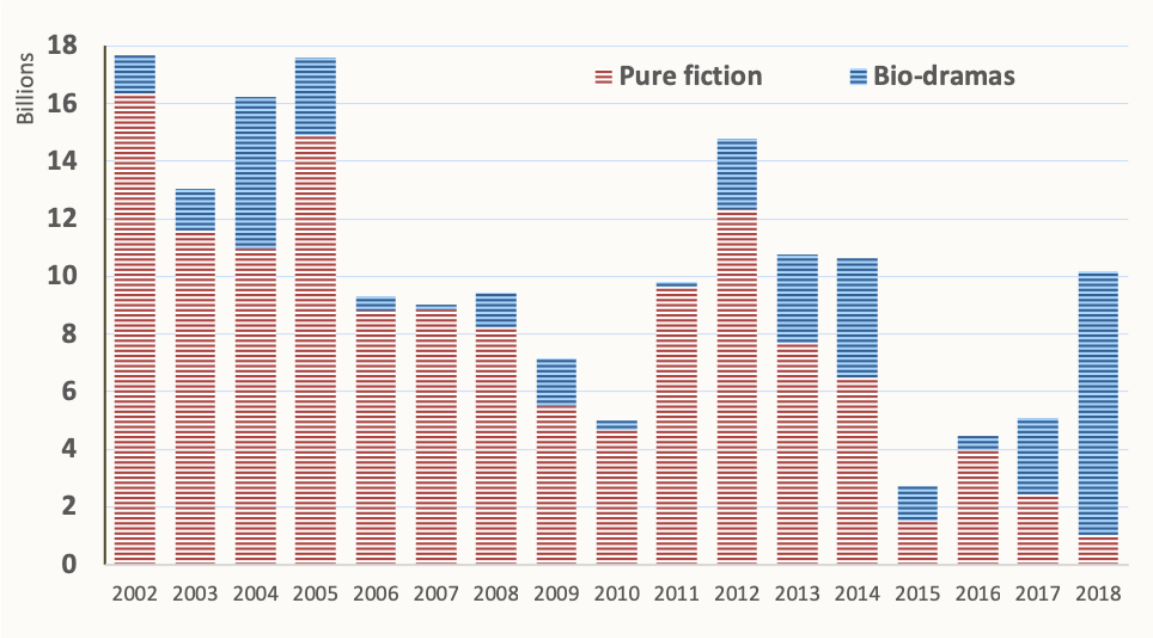


**Observation:** Tobacco incidents in *purely fictional* PG-13 movies declined 82 percent (from 1,197 to 221) between 2002 and 2018, reaching an all-time low in 2018. *Biographical dramas* accounted for thirteen percent of PG-13 tobacco incidents in the 2002-12 period (1,611 of 11,980 incidents) but accounted for more than half of PG-13 incidents in the 2013-18 period (51%, 2,771 of 5,416) — including 82 percent of the 1,241 incidents in 2018. The rise in tobacco incidents in PG-13 biographical dramas resulted in a negligible decrease in annual PG-13 tobacco incidents (from 1,246 to 1,241) over the survey period.

From 2002 to 2018, PG-13 biographical dramas with any smoking averaged 63 tobacco incidents per film compared to 24 incidents in purely fictional PG-13 films.

Figure 11 shows biographical dramas' growing share of PG-13 impressions.*

**Fig 11 | Tobacco impressions from PG-13 purely fictional movies and bio-dramas** (2002-18)




**Observation:** Onscreen tobacco impressions delivered by *purely fictional* PG-13 movies reached an all-time low in 2018 (1.0 billion), while impressions from biographical dramas rose to an all-time high (9.2 billion). From 2002 to 2012, PG-13 *biographical dramas* delivered thirteen percent of PG-13 tobacco impressions to domestic moviegoers (17.3 billion of 129.1 billion). From 2013 to 2018 they delivered nearly half the total (47%, 20.8 billion of 44.0 billion) — including ninety percent in 2018. Without these biographical dramas, PG-13 tobacco impressions would have declined 94 percent from 2002 to 2018 (from 16.3 billion to 1.0 billion). Including the biographical dramas, PG-13 tobacco impressions declined half as much (42%, from 17.7 billion to 10.2 billion).

* A spreadsheet of the 189 top-grossing biographical dramas of all MPAA ratings reviewed in this analysis is available at http://bit.ly/bio-drama2002-18.

From 2002 to 2018, the typical PG-13 biographical drama with smoking delivered more than twice as many audience tobacco impressions as a purely fictional PG-13 movie (543 million vs. 250 million impressions).

**How many smokers in biographical dramas are real people who actually smoked?** From 2002 to 2018, biographical dramas comprised eight percent of all top-grossing movies (189 of 2,429 movies). Yet these biographical dramas included 23 percent of tobacco incidents (10,932 of 47,066) and delivered 21 percent of tobacco impressions (73.1 billion of 347.2 billion).

Biographical dramas also included 22 percent of the movie characters shown using tobacco (1,186 of 5,377). However, 73 percent (865 of 1,186) of all smokers in biographical dramas are fictional; that is, they have no authentic biographical basis. (This includes 82 of the 112 characters shown smoking in 2018's top-grossing biographical dramas.) Distribution of *authentic* and *inauthentic* smokers in biographical dramas across MPAA ratings is shown in Table 3. The growing share of onscreen smokers in PG-13 biographical dramas — compared to smokers in purely fictional PG-13 movies — is shown in Figure 12.

**Table 3 | Authentic and inauthentic smokers in biographical dramas** (2002-18)

| | G/PG | | | PG-13 | | | R-rated | | |
|---|---|---|---|---|---|---|---|---|---|
| | Authentic | Inauthentic | Total | Authentic | Inauthentic | Total | Authentic | Inauthentic | Total |
| **Leads** | 8 | 0 | 8 | 59 | 7 | 66 | 65 | 25 | 90 |
| **Credited** | 8 | 4 | 12 | 83 | 43 | 126 | 98 | 117 | 215 |
| **B'ground** | 0 | 36 | 36 | 0 | 271 | 271 | 0 | 362 | 362 |
| **Total** | 16 | 40 | 56 | 142 | 321 | 463 | 163 | 504 | 667 |

**Observation:** From 2002 to 2018, the share of smokers in biographical dramas who were *inauthentic* (lacking any biographical basis) was approximately the same across MPAA ratings: 71 percent (40 of 56) in G/PG movies, 69 percent (321 of 463) in PG-13 movies, and 76 percent (504 of 667) in R-rated movies.

Twenty percent (32 of 164) of lead actors shown smoking and nearly half (46%, 164 of 353) of other credited actors shown smoking in biographical dramas were inauthentic. Overall, leads and other credited actors accounted for nearly one in four (23%, 196 of 865) inauthentic smokers added to biographical dramas. The rest were background actors (77%, 669 of 865).*

The share of inauthentic smokers played by lead and other credited actors was greatest in R-rated movies (28%, 142 of 504), compared to sixteen percent (50 of 321) in PG-13 movies, and ten percent (4 of 40) in G/PG films.

**Changes in the number of smokers in different genres and ratings** | The number of smokers depicted in *purely fictional* movies of all ratings has declined by 43 percent,

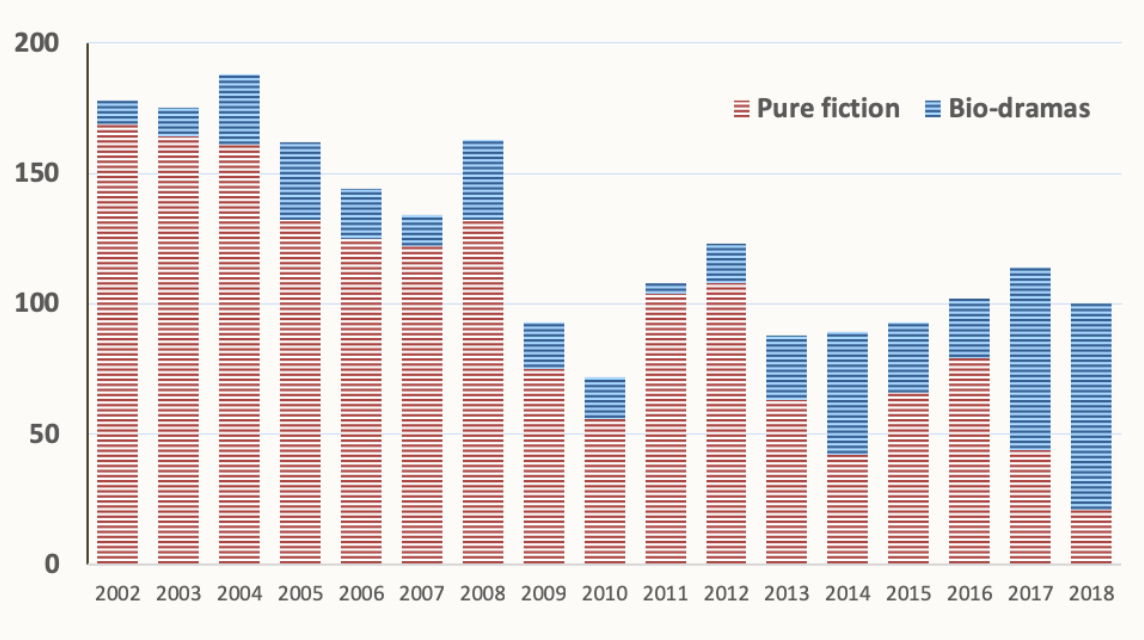
* "Background actors working in smoke (i.e. water-based smoke, herbal cigarette smoke and interior/exterior smoke) shall receive an additional $14 added to the basic daily rate. Any background actor not notified of smoke work at the time of the call may refuse to perform such work and will receive one-half pay." — SAG-AFTRA Background Actors Contracts Digest (updated January 2, 2019)

from 333 smokers in 2002 to 189 smokers in 2018. At the same time, the number of smoking characters in *biographical dramas* of all ratings quadrupled from 26 in 2002 to 112 in 2018 (after peaking at 237 in 2017).

The number of *inauthentic* characters smoking in biographical dramas has also grown, from eight characters in 2002 (5% of the year's inauthentic and purely fictional smokers combined) to thirty characters in 2018 (43% of inauthentic and fictional smokers combined). In 2017, across all ratings, *inauthentic* smokers in biographical dramas (n=190) outnumbered all the smokers in purely fictional movies (n=154) [data not shown].

From 2002 to 2018, the annual number of smoking characters in PG-13 *purely fictional* movies fell by 88 percent, from 169 smokers in 2002 to 21 smokers in 2018. When smokers in biographical movies are included, the number of smokers in all PG-13 movies declined by half as much (43%, from 178 smokers in 2002 to 101 smokers in 2018). (Figure 12)

**Fig 12 | Smokers in PG-13 purely fictional movies and bio-dramas** (2002-18)




In 2018, biographical dramas accounted for 78 percent (79 of 101) of all smokers in PG-13 films. Absent the 54 *inauthentic* smokers in those movies, PG-13 films in 2018 would have depicted a total of 21 purely fictional smokers, 25 authentic biographical smokers, and one smoker in a documentary: a total of 47 smoking characters, the fewest depicted in top-grossing PG-13 movies since at least 2002. (Table 4).

**Table 4 | Number of smokers depicted in PG-13 movies, by genre** (2002-18)

| | Purely fictional | Biographical drama | | | Documentary | *Total* | |
|---|---|---|---|---|---|---|---|
| | Smokers | Smokers | Inauthentic | Authentic | Smokers | Smokers | Absent inauthentic bio-drama smokers |
| **2002** | 169 | 9 | 9 | 0 | 0 | 178 | 169 |
| **2003** | 164 | 11 | 7 | 4 | 0 | 175 | 168 |
| **2004** | 161 | 27 | 19 | 8 | 0 | 188 | 169 |
| **2005** | 132 | 30 | 20 | 10 | 0 | 162 | 142 |
| **2006** | 125 | 19 | 17 | 2 | 0 | 144 | 127 |
| **2007** | 122 | 12 | 6 | 6 | 3 | 137 | 131 |
| **2008** | 132 | 31 | 18 | 13 | 0 | 163 | 145 |
| **2009** | 75 | 18 | 12 | 6 | 0 | 93 | 81 |
| **2010** | 56 | 16 | 15 | 1 | 0 | 72 | 57 |
| **2011** | 104 | 4 | 2 | 2 | 0 | 108 | 106 |
| **2012** | 108 | 15 | 4 | 11 | 0 | 123 | 119 |
| **2013** | 63 | 25 | 19 | 6 | 2 | 90 | 71 |
| **2014** | 42 | 47 | 32 | 15 | 0 | 89 | 57 |
| **2015** | 66 | 27 | 17 | 10 | 0 | 93 | 76 |
| **2016** | 79 | 23 | 19 | 4 | 28 | 130 | 111 |
| **2017** | 44 | 70 | 51 | 19 | 0 | 114 | 63 |
| **2018** | 21 | 79 | 54 | 25 | 1 | 101 | 47 |
| **TOTAL** | 1,663 | 463 | 321 | 142 | 34 | 2,160 | 1,839 |

**Biographical dramas and their tobacco content vary across US film companies** | Across the US film industry, the majority of smoking characters in top-grossing biographical dramas lacked any authentic biographical basis. However, the number of biographical dramas with smoking and the typical amount of smoking in these movies varied considerably by company and MPAA rating class. (Table 5)

**Table 5 | Tobacco content in biographical dramas, by company and rating class** (2002-18)

| **Youth-rated** | **Films** | **Smoking films** | **Percent** | **Incidents** | **Per film** | **Impressions** (millions) | **Per film** (millions) | **Total smokers** | **Percent inauthentic** |
|---|---|---|---|---|---|---|---|---|---|
| Comcast | 19 | 16 | 84% | 1,508 | 79 | 12,912 | 680 | 96 | 69% |
| Disney | 12 | 5 | 42% | 321 | 27 | 3,739 | 312 | 33 | 52% |
| Fox | 9 | 7 | 78% | 560 | 62 | 6,535 | 726 | 52 | 73% |
| Sony | 19 | 12 | 63% | 505 | 27 | 3,808 | 200 | 65 | 75% |
| Time Warner | 13 | 7 | 54% | 619 | 48 | 5,033 | 387 | 39 | 59% |
| Viacom | 8 | 7 | 88% | 198 | 25 | 780 | 97 | 42 | 83% |
| **MPAA** | 80 | 54 | 68% | 3,711 | 46 | 32,807 | 410 | 327 | 70% |
| **Independents** | 33 | 28 | 85% | 1,262 | 38 | 7,379 | 224 | 192 | 69% |
| Subtotal | 113 | 82 | 73% | 4,973 | 44 | 40,186 | 356 | 519 | 69% |
| **R-rated** | **Films** | **Smoking films** | **Percent** | **Incidents** | **Per film** | **Impressions** (millions) | **Per film** | **Total smokers** | **Percent inauthentic** |
| Comcast | 21 | 18 | 86% | 1,811 | 86 | 12,177 | 580 | 160 | 76% |
| Disney | 1 | 1 | 100% | 4 | 4 | 2 | 2 | 1 | 0% |
| Fox | 6 | 6 | 100% | 275 | 46 | 740 | 123 | 32 | 72% |
| Sony | 2 | 2 | 100% | 366 | 183 | 660 | 330 | 45 | 78% |
| Time Warner | 12 | 11 | 92% | 1,191 | 99 | 7,974 | 664 | 106 | 71% |
| Viacom | 12 | 12 | 100% | 694 | 58 | 5,566 | 464 | 90 | 76% |
| **MPAA** | 54 | 50 | 93% | 4,341 | 80 | 27,118 | 502 | 434 | 74% |
| **Independents** | 22 | 20 | 91% | 1,618 | 74 | 5,797 | 264 | 233 | 78% |
| Subtotal | 76 | 70 | 92% | 5,959 | 78 | 32,915 | 433 | 667 | 76% |
| **TOTAL** | 189 | 152 | 80% | 10,932 | 58 | 73,101 | 387 | 1,186 | 73% |

**Observation:** MPAA-member companies released two-thirds (68%, 104 of 152) of all top-grossing biographical dramas with smoking. These major-studio movies included 64 percent of the genre's smoking characters (761 of 1,186) and 74 percent of its tobacco incidents (8,052 of 10,932). Major studios' movies also delivered 82 percent (32.8 billion of 40.2 billion) of youth-rated biographical dramas' tobacco impressions from 2002 to 2018 — and 82 percent of the genre's impressions across all ratings (59.9 billion of 73.1 billion).

From 2002 to 2018, Comcast (Universal) released more top-grossing youth-rated and R-rated biographical dramas with smoking (22%, 34/152) than any other MPAA-member. Its movies accounted for 30 percent (3,319 of 10,932) of all tobacco incidents in biographical dramas and delivered more than one-third of the genre's in-theater tobacco impressions (34%, 25.0 billion of 73.1 billion). Comcast's biographical dramas featured 256 onscreen smokers, of whom nearly three-quarters (73%, 188 of 256) were inauthentic.

As a group, independent movie companies (not MPAA members but observing its rating and advertising rules) released more top-grossing biographical dramas with smoking than any single major studio (32%, 48 of 152). However, independents averaged fewer tobacco incidents in biographical dramas than the major studios (60 incidents per movie with any smoking, across all

ratings, vs. 77 incidents). With smaller audiences, related to their smaller budgets, the independents accounted for eighteen percent of the genre's audience tobacco impressions (13.2 billion of 73.1 billion).

Sixty-nine percent of the smoking characters in youth-rated biographical dramas and 76 percent in R-rated biographical dramas were inauthentic. With the exception of a single R-rated movie from Disney, *inauthentic* smokers outnumbered *authentic* biographical smokers in youth-rated and R-rated biographical dramas from every major movie company in each year of the 2002-2018 survey period.

**How realistic is smoking in biographical dramas? Evidence from documentaries** |One justification sometimes claimed by the US film industry for smoking on screen is that it is necessary to "reflect reality."* Indeed, the exception to the modernized R-rating proposal allows an exemption for movies depicting smoking the actual people who actually smoked. As discussed above, however, this exemption appears to have opened the door to packing biographical dramas with high levels of smoking, often by fictional characters who would not be covered by the R-rating policy exemption.

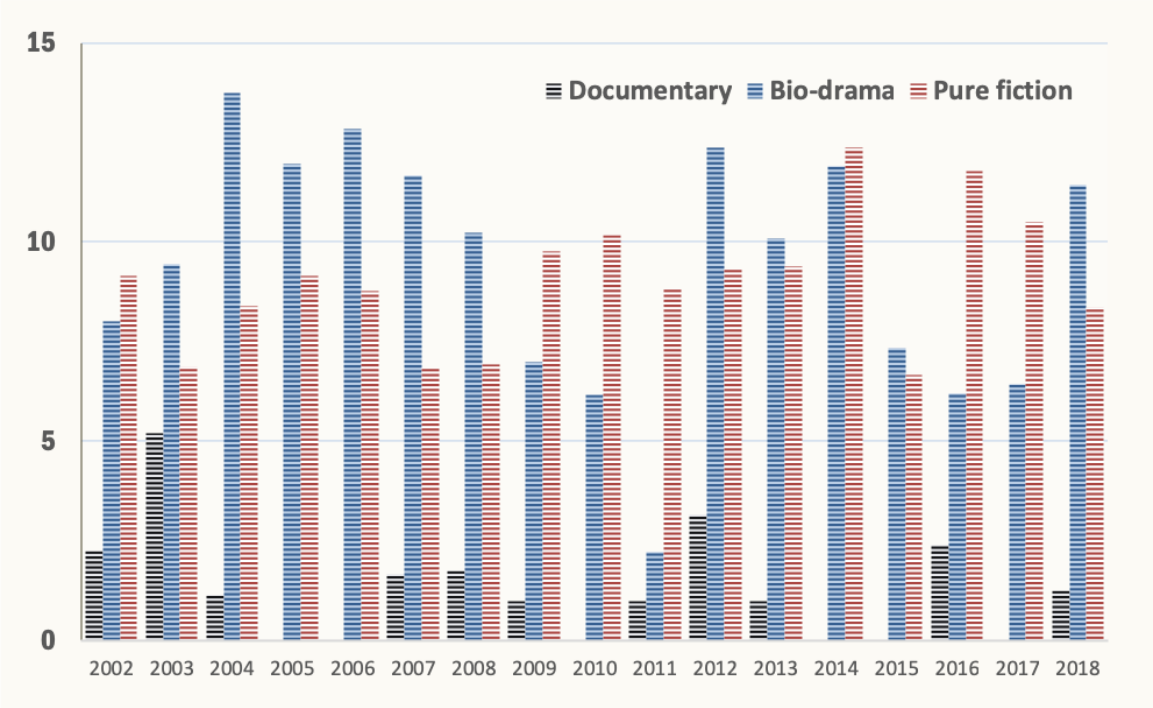
Documentaries provide a useful comparison group to judge the extent to which biographical dramas' depictions of smoking "reflect reality." Specifically, documentaries record reality, rather than dramatize or fantasize it.

More than half of top-grossing documentaries (57%, 17 of 30 movies) included tobacco imagery in the 2002-2018 survey period. However, the percentage of documentaries depicting tobacco use was significantly smaller than for biographical dramas, purportedly based on reality (80%, 152 of 189 movies; p=.008 by chi-square). The documentaries with any smoking also showed substantially less smoking than biographical dramas. Documentaries averaged ten tobacco incidents per movie, compared to 72 tobacco incidents in a typical biographical drama with smoking.

In addition, the documentaries showed substantially fewer smokers than biographical dramas (five vs. eight smokers). Each smoker in a documentary was also associated with fewer on-screen tobacco incidents, on average: 2.1 tobacco incidents compared to 9.2 tobacco incidents per smoker in biographical dramas. (Figure 13)

* Example: In defense of cigarette smoking in his futuristic space fantasy *Avatar* (PG-13, Fox, 2009), producer-director James Cameron told *The New York Times*, "[S]peaking as an artist, I don't believe in the dogmatic idea that no one in a movie should smoke. Movies should reflect reality."

**Fig 13 | Tobacco incidents per smoker in three film genres, all ratings** (2002-18)




**Observation:** Tobacco incidents per smoker in documentary films remain low and show no substantial change from 2002 to 2018. Incidents per smoker in biographical dramas declined steadily from 2004 (13.7) to 2011 (2.2), returned to near-historic highs 2012-14, declined moderately, and rebounded in 2018.

## 6| E-cigarette appearances in movies

The first known use of an e-cigarette in a US movie was by lead actor Johnny Depp in *The Tourist* (PG-13, Sony, 2010). For this report, we consulted the Breathe California-UCSF Onscreen Tobacco Database for all other e-cigarette usage in a movie grossing at least $1 million at the domestic box office from 2010 through 2018.*

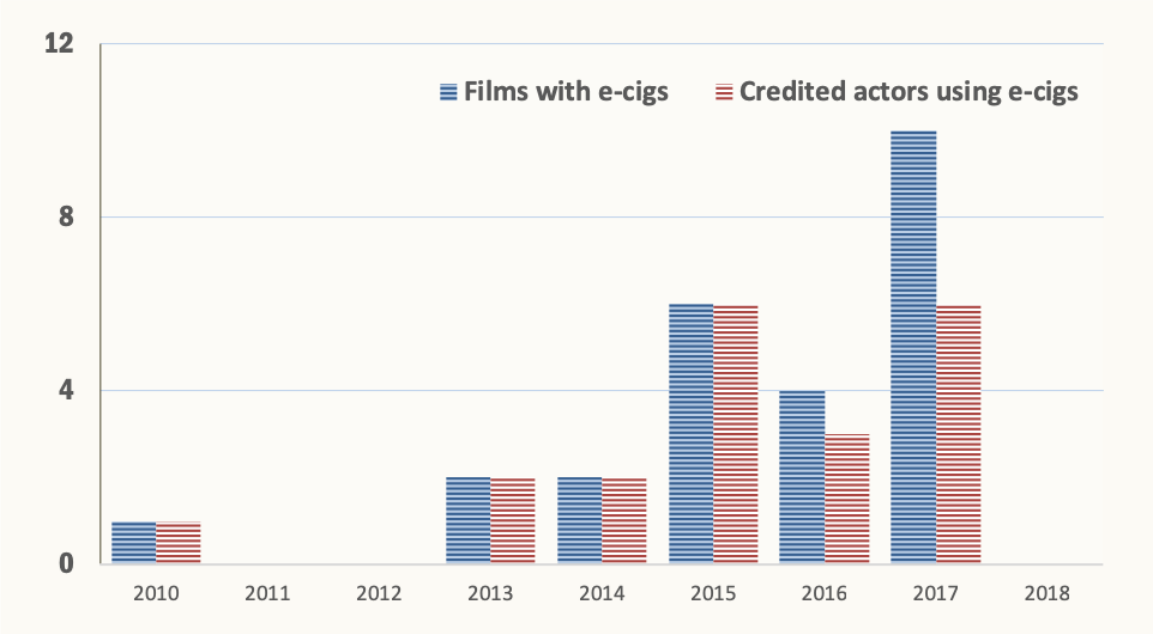
We identified twenty-five movies over the nine years surveyed that showed e-cigarette usage. More than three-quarters of the movies (76%, 19 of 25) were R-rated. A single movie was rated PG (*Wonderstruck*: Amazon, 2017); four movies were rated PG-13; and one movie, produced in India, was released in the US without an MPAA rating. Nineteen of the movies (76%) were top-grossing movies, delivering a total of 3.3 billion domestic in-theater tobacco impressions (calculated on incidents involving tobacco products of all types in these movies, not only e-cigarettes).

In these twenty-five movies, twenty-nine actors were shown using e-cigarettes. Ten of the actors (34%) played lead characters, ten (34%) were other credited actors, and nine (31%) were uncredited background actors. By 2017, the last year to-date that e-cigarettes appeared in movies, fewer credited actors were shown using the

* With e-cigarettes comprising less than five percent of all tobacco product reports 2010-2018, we surveyed both the OTDb's T10 (top-grossing) and Mill (>$1 million BO) film samples to identify all appearances.

product. The share of e-cigarettes used by credited actors vs. background actors fell to 60 percent, the lowest level in the survey. In 2018, for the first time in five years, no movies showed e-cigarettes. (Figure 14)

**Fig 14 | Movies showing e-cigarette use** (2010-18)




## Conclusion

Onscreen smoking in *purely fictional* PG-13 movies reached historic lows in 2018, measured in number of movies, number of smoking incidents, and smoking impressions delivered. Despite this progress, the decline in onscreen tobacco incidents in youth-rated movies has stalled since 2010 and in-theater audience exposures from youth-rated movies may have increased in recent years. Major studio movies still deliver the majority of tobacco exposures, despite all of these companies' having adopted individual tobacco depiction policies by 2013.

The movie industry appears to be keeping youth exposure to onscreen smoking high by persistent exaggeration of smoking in youth-rated *biographical dramas*. Loading these movies with smoking incidents has helped to push tobacco levels in PG-13 movies to historic extremes, fueled a rebound in moviegoers' tobacco exposure, and mooted the gains most major studios have made against smoking in their purely fictional movies. Studios seem to have taken advantage of the proposed exception to the R-rating for *actual historical figures who actually smoked* to pack biographical dramas with fictional smoking characters. Implementation of this exception should be carefully monitored to make sure this abuse does not continue.

In 2018, ninety percent of PG-13 tobacco impressions were delivered by ten PG-13 biographical dramas, half released by two MPAA-member companies: Comcast and Fox. That same year, two other MPAA companies — Disney and Viacom — kept all of their youth-rated movies smokefree. Since 2003, when the US film industry was first

briefed on the toxic hazard of smoking in kid-rated movies, its incoherent and unreliable response has kept young audiences' exposure at unacceptably dangerous levels.

Given the tobacco industry's nearly century-long history of exploiting movie and television to promote smoking and the major studios' demonstrated inability to deal responsibly with tobacco content individually, only the R-rating promises to permanently protect young audiences in the US and around the world who are at palpable risk of tobacco addiction, physical disability, and early death.

Aside from the continued decline in the number of youth-rated purely fictional movies with smoking, there may be evidence that MPAA-member movie companies are sensitized to tobacco/nicotine content issues. For example, in early 2016, a federal class action suit against the MPAA and its member companies was filed in California. While this case was ultimately dismissed, it may have alerted studio management to potential legal liability associated with depicting smoking in youth-rated movies. Also, in early 2016, the FDA banned youth sales of e-cigarettes. By 2018, when movies that entered development in early 2016 were released to theaters, e-cigarettes were no longer visible on screen.

Media consumption is migrating to smaller screens, most quickly among adolescents and young adults, and the US movie industry is rushing to adapt to over-the-top (streaming) services that are investing billions of dollars in original video series and feature movies. Production companies and TV production divisions of media companies associated with smoking movies are already active in premium cable and streaming projects.

Systematic monitoring of broadcast, cable, and internet-based video platforms — from established services such as Amazon, Hulu, and Netflix, to new channels announced by Apple, AT&T's WarnerMedia, and Disney — is needed on the scale now devoted to movies. Objectives should include quantifying the sources and intensity of young audiences' tobacco exposure from feature-length and episodic video entertainment and informing effective policies to rapidly reduce their exposure.

Updating the existing MPAA rating system to R-rate future films with tobacco imagery is the only evidence-based method to set a transparent, enforceable, uniform standard covering feature films of all genres and budgets in all distribution channels. The R-rating will create a self-enforcing, voluntary market mechanism that reserves future tobacco imagery for movies not marketed to children and adolescents. Comparable policies to create economic disincentives for featuring tobacco imagery in video media accessible to children and adolescents will become increasingly important.

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**APPENDIX A:** Tobacco content in top-grossing G/PG/PG-13 movies, by company

**FILMS WITH TOBACCO IMAGERY**

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Comcast | 6 | 6 | 9 | 10 | 7 | 4 | 8 | 5 | 1 | 4 | 3 | 2 | 6 | 3 | 2 | 5 | 5 | 86 |
| Disney | 10 | 6 | 10 | 5 | 4 | 5 | 1 | 2 | 1 | 3 | 1 | 2 | 0 | 2 | 1 | 0 | 0 | 53 |
| Fox | 7 | 10 | 5 | 8 | 6 | 6 | 6 | 10 | 3 | 5 | 3 | 2 | 4 | 4 | 4 | 2 | 6 | 91 |
| Sony | 9 | 8 | 12 | 12 | 14 | 8 | 7 | 10 | 8 | 8 | 7 | 5 | 7 | 4 | 3 | 3 | 4 | 129 |
| Time Warner | 8 | 10 | 9 | 9 | 8 | 13 | 7 | 5 | 2 | 4 | 4 | 4 | 2 | 4 | 2 | 3 | 3 | 97 |
| Viacom | 7 | 7 | 6 | 6 | 6 | 6 | 6 | 1 | 3 | 6 | 2 | 1 | 2 | 2 | 5 | 4 | 0 | 70 |
| **MPAA Subtotal** | 47 | 47 | 51 | 50 | 45 | 42 | 35 | 33 | 18 | 30 | 20 | 16 | 21 | 19 | 17 | 17 | 18 | 526 |
| Indies | 15 | 14 | 17 | 7 | 9 | 11 | 20 | 8 | 9 | 6 | 13 | 12 | 10 | 12 | 7 | 14 | 8 | 192 |
| **TOTALS** | 62 | 61 | 68 | 57 | 54 | 53 | 55 | 41 | 27 | 36 | 33 | 28 | 31 | 31 | 24 | 31 | 26 | 718 |

**TOBACCO INCIDENTS**

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Comcast | 83 | 126 | 348 | 341 | 232 | 43 | 275 | 38 | 19 | 78 | 39 | 53 | 173 | 11 | 266 | 407 | 573 | 3,105 |
| Disney | 183 | 68 | 155 | 128 | 55 | 27 | 19 | 3 | 10 | 148 | 102 | 57 | 0 | 123 | 6 | 0 | 0 | 1,084 |
| Fox | 105 | 194 | 55 | 172 | 118 | 86 | 62 | 152 | 96 | 177 | 207 | 3 | 101 | 150 | 145 | 90 | 327 | 2,240 |
| Sony | 224 | 211 | 287 | 371 | 299 | 322 | 69 | 234 | 198 | 175 | 180 | 27 | 196 | 98 | 144 | 28 | 86 | 3,149 |
| Time Warner | 190 | 240 | 319 | 462 | 199 | 254 | 45 | 98 | 4 | 106 | 265 | 314 | 16 | 30 | 40 | 26 | 29 | 2,637 |
| Viacom | 78 | 213 | 118 | 308 | 162 | 55 | 168 | 70 | 115 | 145 | 92 | 12 | 66 | 3 | 86 | 98 | 0 | 1,789 |
| **MPAA Subtotal** | 863 | 1,052 | 1,282 | 1,782 | 1,065 | 787 | 638 | 595 | 442 | 829 | 885 | 466 | 552 | 415 | 687 | 649 | 1,015 | 14,004 |
| Indies | 433 | 221 | 434 | 203 | 122 | 408 | 481 | 390 | 152 | 22 | 301 | 317 | 640 | 192 | 128 | 266 | 243 | 4,953 |
| **TOTALS** | 1,296 | 1,273 | 1,716 | 1,985 | 1,187 | 1,195 | 1,119 | 985 | 594 | 851 | 1,186 | 783 | 1,192 | 607 | 815 | 915 | 1,258 | 18,957 |

**IN-THEATER TOBACCO IMPRESSIONS (DOMESTIC)**

| **(millions)** | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Comcast | 656 | 2,094 | 3,992 | 5,834 | 2,359 | 228 | 1,872 | 210 | 51 | 488 | 373 | 335 | 1,376 | 87 | 900 | 2,352 | 4,177 | 27,384 |
| Disney | 718 | 697 | 2,226 | 751 | 704 | 492 | 93 | 39 | 424 | 2,844 | 2,335 | 2,827 | 0 | 1,068 | 9 | 0 | 0 | 15,225 |
| Fox | 516 | 2,022 | 316 | 2,109 | 338 | 1,124 | 299 | 1,707 | 690 | 1,759 | 2,873 | 26 | 1,733 | 617 | 858 | 247 | 4,975 | 22,210 |
| Sony | 4,199 | 3,013 | 3,618 | 2,166 | 2,557 | 4,011 | 856 | 1,412 | 1,803 | 1,167 | 2,064 | 294 | 2,002 | 379 | 1,490 | 431 | 458 | 31,920 |
| Time Warner | 2,393 | 2,918 | 4,804 | 2,723 | 1,360 | 1,624 | 805 | 2,251 | 15 | 1,975 | 5,613 | 4,957 | 470 | 148 | 562 | 746 | 217 | 33,581 |
| Viacom | 677 | 2,006 | 984 | 5,349 | 2,405 | 429 | 3,878 | 296 | 1,927 | 2,693 | 671 | 187 | 1,793 | 64 | 341 | 891 | 0 | 24,592 |
| **MPAA Subtotal** | 9,159 | 12,750 | 15,939 | 18,931 | 9,724 | 7,909 | 7,802 | 5,914 | 4,911 | 10,925 | 13,930 | 8,626 | 7,374 | 2,364 | 4,159 | 4,667 | 9,826 | 154,912 |
| Indies | 9,031 | 1,111 | 2,621 | 1,462 | 536 | 2,386 | 1,799 | 1,551 | 579 | 234 | 953 | 2,167 | 3,429 | 495 | 391 | 421 | 519 | 29,686 |
| **TOTALS** | 18,190 | 13,861 | 18,560 | 20,393 | 10,260 | 10,295 | 9,601 | 7,465 | 5,489 | 11,159 | 14,883 | 10,793 | 10,804 | 2,859 | 4,551 | 5,088 | 10,346 | 184,598 |

**APPENDIX B:** Summary data by film genre

**Documentary**

| | G/PG | | | Impressions | PG-13 | | | Impressions | R-rated | | | Impressions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Films | Smoking | Incidents | (millions) | Films | Smoking | Incidents | (millions) | Films | Smoking | Incidents | (millions) |
| 2002 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 9 | 33 |
| 2003 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 26 | 33 |
| 2004 | 1 | 1 | 3 | 6 | 0 | 0 | 0 | 0 | 1 | 1 | 6 | 115 |
| 2005 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2006 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2007 | 0 | 0 | 0 | 0 | 1 | 1 | 5 | 18 | 0 | 0 | 0 | 0 |
| 2008 | 2 | 1 | 9 | 9 | 0 | 0 | 0 | 0 | 1 | 1 | 5 | 9 |
| 2009 | 3 | 1 | 1 | 10 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 6 |
| 2010 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2011 | 2 | 1 | 1 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012 | 2 | 1 | 19 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2013 | 1 | 1 | 1 | 4 | 1 | 1 | 2 | 9 | 1 | 1 | 1 | 4 |
| 2014 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2015 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2016 | 0 | 0 | 0 | 0 | 1 | 1 | 67 | 101 | 1 | 0 | 0 | 0 |
| 2017 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2018 | 1 | 1 | 9 | 14 | 1 | 1 | 1 | 2 | 2 | 0 | 0 | 0 |
| **Total** | 15 | 7 | 43 | 131 | 4 | 4 | 75 | 131 | 11 | 6 | 50 | 201 |

**Biographical drama**

| | G/PG | | | Impressions | PG-13 | | | Impressions | R-rated | | | Impressions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Films | Smoking | Incidents | (millions) | Films | Smoking | Incidents | (millions) | Films | Smoking | Incidents | (millions) |
| 2002 | 1 | 0 | 0 | 0 | 2 | 2 | 49 | 1,340 | 3 | 3 | 159 | 867 |
| 2003 | 1 | 1 | 20 | 173 | 2 | 2 | 118 | 1,444 | 2 | 2 | 126 | 515 |
| 2004 | 2 | 1 | 13 | 108 | 5 | 5 | 432 | 5,295 | 2 | 2 | 146 | 736 |
| 2005 | 2 | 2 | 329 | 1,410 | 4 | 4 | 290 | 2,715 | 4 | 4 | 422 | 1,569 |
| 2006 | 3 | 0 | 0 | 0 | 8 | 3 | 45 | 534 | 5 | 4 | 738 | 2,197 |
| 2007 | 2 | 2 | 68 | 150 | 4 | 2 | 106 | 160 | 5 | 5 | 596 | 6,070 |
| 2008 | 2 | 1 | 3 | 4 | 3 | 3 | 210 | 1,219 | 2 | 2 | 298 | 598 |
| 2009 | 2 | 2 | 55 | 90 | 4 | 3 | 163 | 1,679 | 5 | 4 | 194 | 1,131 |
| 2010 | 2 | 0 | 0 | 0 | 3 | 3 | 53 | 339 | 3 | 3 | 206 | 1,443 |
| 2011 | 2 | 0 | 0 | 0 | 1 | 1 | 17 | 159 | 1 | 1 | 14 | 66 |
| 2012 | 1 | 0 | 0 | 0 | 3 | 2 | 128 | 2,433 | 3 | 3 | 367 | 3,301 |
| 2013 | 0 | 0 | 0 | 0 | 5 | 5 | 253 | 3,056 | 8 | 7 | 513 | 3,856 |
| 2014 | 3 | 1 | 10 | 37 | 6 | 6 | 447 | 4,174 | 3 | 3 | 377 | 2,461 |
| 2015 | 2 | 1 | 83 | 100 | 7 | 5 | 229 | 1,231 | 5 | 3 | 194 | 2,495 |
| 2016 | 3 | 0 | 0 | 0 | 6 | 5 | 180 | 489 | 10 | 10 | 477 | 1,788 |
| 2017 | 2 | 1 | 10 | 16 | 9 | 9 | 643 | 2,633 | 10 | 10 | 872 | 2,724 |
| 2018 | 1 | 0 | 0 | 0 | 10 | 10 | 1,019 | 9,199 | 5 | 4 | 260 | 1,099 |
| **Total** | 31 | 12 | 591 | 2,089 | 82 | 70 | 4,382 | 38,097 | 76 | 70 | 5,959 | 32,916 |

**Purely fictional**

| | G/PG | | | Impressions | PG-13 | | | Impressions | R-rated | | | Impressions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Films | Smoking | Incidents | (millions) | Films | Smoking | Incidents | (millions) | Films | Smoking | Incidents | (millions) |
| 2002 | 26 | 8 | 50 | 503 | 66 | 52 | 1,197 | 16,347 | 44 | 38 | 1,800 | 11,361 |
| 2003 | 23 | 8 | 71 | 649 | 62 | 50 | 1,064 | 11,595 | 46 | 38 | 1,136 | 9,217 |
| 2004 | 28 | 11 | 128 | 2,206 | 70 | 50 | 1,140 | 10,946 | 37 | 30 | 1,436 | 8,115 |
| 2005 | 29 | 11 | 143 | 1,376 | 66 | 40 | 1,223 | 14,891 | 37 | 35 | 1,540 | 8,129 |
| 2006 | 37 | 8 | 146 | 937 | 65 | 43 | 996 | 8,790 | 43 | 38 | 1,624 | 8,656 |
| 2007 | 34 | 13 | 105 | 1,107 | 52 | 35 | 911 | 8,861 | 61 | 49 | 1,442 | 5,733 |
| 2008 | 24 | 3 | 41 | 143 | 74 | 47 | 856 | 8,226 | 39 | 29 | 960 | 5,505 |
| 2009 | 33 | 3 | 62 | 204 | 59 | 32 | 704 | 5,483 | 45 | 31 | 924 | 8,569 |
| 2010 | 32 | 4 | 30 | 500 | 50 | 20 | 511 | 4,650 | 46 | 32 | 1,024 | 7,272 |
| 2011 | 29 | 5 | 106 | 1,365 | 63 | 29 | 727 | 9,625 | 36 | 25 | 1,015 | 5,306 |
| 2012 | 25 | 2 | 4 | 26 | 58 | 28 | 1,035 | 12,345 | 51 | 37 | 1,330 | 9,051 |
| 2013 | 18 | 3 | 7 | 21 | 54 | 18 | 520 | 7,704 | 50 | 40 | 1,282 | 9,065 |
| 2014 | 23 | 2 | 17 | 114 | 55 | 22 | 718 | 6,479 | 42 | 24 | 1,070 | 5,838 |
| 2015 | 21 | 2 | 5 | 24 | 52 | 23 | 290 | 1,504 | 50 | 35 | 942 | 3,929 |
| 2016 | 22 | 1 | 4 | 6 | 59 | 17 | 564 | 3,954 | 41 | 25 | 1,871 | 10,128 |
| 2017 | 19 | 0 | 0 | 0 | 51 | 21 | 262 | 2,439 | 44 | 31 | 1,354 | 8,555 |
| 2018 | 21 | 2 | 8 | 101 | 50 | 12 | 221 | 1,029 | 48 | 34 | 1,350 | 5,065 |
| **Total** | 444 | 86 | 927 | 9,283 | 1,006 | 539 | 12,939 | 134,867 | 760 | 571 | 22,100 | 129,496 |

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