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March 17 2015

Bruce Davis,
Chair, Ontario Film Review Board
Ministry of Government and Consumer Services
Consumer Protection Branch,
4950 Yonge St.
Toronto ON M2N 6K1

Dear Mr. Davis,

Re: Tobacco in Movies – Background Papers

On behalf of the Council of Ontario Medical Officers of Health (COMOH) Smoke-Free Movies Working Group, I am pleased to provide you with a binder of selected materials that we believe make a clear case for reducing the exposure of youth to tobacco imagery in films.

We hope that the evidence that we have provided here is helpful in convincing you, your colleagues and the film industry at large about the importance of this issue and of the simple interventions that are available to start saving countless lives.

We are extremely appreciative of your willingness to engage with us on this issue in recent weeks and your receptiveness to discussions of how to move toward acceptable and effective solutions.

Best regards,

C. Gardner

Dr. Charles Gardner,
Medical Officer of Health, Simcoe-Muskoka District Health Unit
Lead, COMOH Smoke-Free Movies Working Group.

Reducing the Exposure to Onscreen Tobacco in Movies among Ontario Youth: Selected Background Papers

Binder Contents

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Reducing the Exposure to Onscreen Tobacco in Movies among Ontario Youth:
Discussion of potential for changes to Ontario's film rating system to include the depiction of tobacco

Background Information

February 25 2015
Ministry of Government and Consumer Services
Ontario Film Review Board/Theatres Regulation Unit
4950 Yonge Street, Suite 101 B

PARTICIPANTS: Bruce Davis, Chair, Ontario Film Review Board (OFRB); Dr. Charles Gardner, Medical Officer of Health, Simcoe-Muskoka District Health Unit; Dr. Alex Hukowich, Medical Officer of Health (A), Northwestern Health Unit; Dr. Christine Kennedy, Associate Medical Officer of Health, Grey – Bruce Health Unit; Dr. Chris Mackie, Medical Officer of Health, Middlesex-London Health Unit; Dr. Ninh Tran, Associate Medical Officer of Health, City of Hamilton Public Health Services; Dr. Megan Ward, Associate Medical Officer of Health, Peel Public Health; Gordon Fleming, Manager Public Health Issues, Association of Local Public Health Agencies (alPHa).

Exposure to Onscreen Tobacco: Recommendations for the Ontario Film Review Board

Issue

The World Health Organization recommends five policy actions to reduce youth exposure to tobacco imagery in movies.

The Ontario Film Review Board (OFRB) is in a position to act on the adult rating (18A in Ontario) and to assist parents in placing parental restrictions on adult-rated movies. This briefing provides an overview of the policy recommendations and suggestions for the OFRB to address the issue.

Background

There is a strong and causal relationship between child and youth exposure to tobacco imagery in movies and the initiation and progression to regular smoking.[1]

Movies remain one of the only remaining areas where there is a lack of regulation regarding product placement. The number of youth-rated films with tobacco depictions is higher in Canada than the United States due to differences in film classification systems. In a recent study, 86% of movies with tobacco released in 2004-2013 were youth-rated in Ontario compared to only 54% in the United States.[5] Assigning an R rating (18A in Ontario) to future movies with smoking would be expected to reduce the number of teen smokers by nearly 1 in 5 (18%) and prevent one million deaths from smoking among children alive today.[4]

In Ontario, tobacco use is currently included as a 'content advisory' and 'detailed observation', but is not a criterion when rating movies. An analysis of the OFRB 'content advisories' found that only 11% of the movies that independent monitors identified as containing tobacco received a 'content advisory' from the OFRB.[5] There were also discrepancies between the number of movies with tobacco use 'detailed observations' issued by the OFRB and the number of movies with tobacco imagery identified by independent monitors.[5]

There are known effective interventions to reduce the impact of exposure to tobacco imagery in movies on smoking intention and initiation. A rapid review completed by Peel Public Health identified the following effective interventions:

1. Parental restrictions on adult-rated movies
2. Assign an adult-rating (18A in Ontario) to movies that contain tobacco imagery
3. Place anti-smoking ads prior to movies with tobacco imagery

The World Health Organization (WHO) recommends five policy actions to reduce the exposure of children and youth to smoking in movies. The recommendations support Article 13 of the Framework Convention on Tobacco Control, which Canada has signed, which calls for a comprehensive ban on all tobacco advertising, promotion and sponsorship[2]:

1. Require adult ratings (18A in Ontario) for films with tobacco imagery
2. Require strong anti-smoking ads prior to movies depicting tobacco use
3. Certify no payoffs have been given in exchange for the depiction of tobacco use in a movie.
4. Stop identifying tobacco brands
5. Make productions with smoking ineligible for public subsidy

As producers leave tobacco imagery out of films in order to obtain a youth rating in their domestic markets, these films will reduce overall exposure of youth to on-screen tobacco use in films released globally by major distributors.[2]

There is public support to address this issue. A survey of Ontarians 18 years of age and over indicated that 73% would support a policy to not allow smoking in movies that are rated G, PG or 14A.[6] In Ontario there is strong municipal political support. The Association of Local Public Health Agencies (alPHa) as well as 27 public health units have passed resolutions in support of the WHO policy recommendations. Several organizations in Ontario from the broader health sector (e.g., Canadian Cancer Society, Heart and Stroke Foundation and Ontario Lung Association) have also submitted formal letters indicating their support. Many national and international organizations are advocating for increased knowledge of the impact of tobacco imagery in movies on children and youth as well as policies and interventions aimed at reducing tobacco exposure in movies. The United States, China, India, the UK, Malaysia, Kenya, Nigeria and South Africa have all initiated country-specific responses to address this worldwide issue.[2] In addition, the International Week of Action on Smoke-free Movies is scheduled during the same week of the Academy Awards in order to take coordinated action globally.

Recommendations for the OFRB

The OFRB can take action to protect Ontario's youth through the following actions:

1. Strengthen the 'content advisory' process to ensure that all movies containing tobacco imagery are assigned a content advisory.

Prepared by: Peel Public Health
Last updated: February, 2015

2. Assign an adult-rating (18A in Ontario) for all future movies that contain tobacco imagery.

References

1) U.S. Department of Health and Human Services (2012). Preventing tobacco use among youth and young adults: A report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centres for Disease Control and Prevention, National Centre for Chronic Disease and Health Promotion, Office of Smoking and Health.

2) World Health Organization (2011). Smoke-free movies: from evidence to action – 2nd edition. Geneva, Switzerland: World Health Organization Press.

3) Peel Public Health (2012). Interventions to reduce the impact of smoking in the movies on the smoking behaviours of youth: A rapid review. Mississauga, ON.

4) U.S. Department of Health and Human Services (2014). The health consequences of smoking – 50 years of progress: A report of the Surgeon General. Atlanta, GA: U.S. 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.

5) Babayan, A., Luk, R., Scwartz, R. (2014). Exposure to onscreen tobacco in movies among Ontario youth, 2004-2013. Toronto, ON. Ontario Tobacco Research Unit.

6) Ispos Reid (2011). Smoking in movies. Accessible at: http://www.ipsos-na.com/download/pr.aspx?id=10767

alPHa Association of Local PUBLIC HEALTH Agencies 25 YEARS

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Providing leadership in public health management

Hon. Dalton McGuinty
Premier of Ontario
Legislative Bldg Rm 281
Queen's Park
Toronto, ON M7A 1A1

August 17, 2011

Dear Premier McGuinty,

Re. alPHa Resolution A11-11, Provincial Adoption and Promotion of Smoke-Free Movies to Reduce the Impact of Smoking in Movies on Youth in Ontario

On behalf of member Medical Officers of Health, Boards of Health and Affiliate organizations of the Association of Local Public Health Agencies (alPHa) I am writing to introduce alPHa's 2011 Resolution calling for action on reducing youth exposure to tobacco imagery in films.

Great regulatory strides have been made in Ontario that severely limit the options available to tobacco companies to market their products. Traditional means of promotion such as print and broadcast media advertising, in-store displays and event sponsorships have been all but eliminated, leading the tobacco industry to employ less obvious but nevertheless effective means of promotion. One of the most significant is tobacco imagery and product placement in films.

There is extensive evidence of an association between the portrayal of tobacco use in film and youth tobacco initiation. Physicians for a Smoke Free Canada estimates that 44% of teen smokers' first use of tobacco was preceded by seeing a character smoking in a film. alPHa's resolution calls on the Province to take simple but effective measures that will greatly reduce such motivation.

We believe that adding tobacco imagery to the guidelines that are used by the Ontario Film Review Board to classify films will have a strong impact. Rating films with tobacco imagery as "18A" under Ontario's current classification system will significantly reduce the number of tobacco impressions seen by youth during the years that they are most at risk of initiating tobacco use. We are also calling for a requirement that a statement be made by producers of all films shown in Ontario that no consideration was received for displaying tobacco products of promoting their use, and for anti-tobacco public service spots to be shown before any film containing tobacco imagery.

We look forward to congratulating the Government of Ontario for further demonstrating its commitment to a Smoke-Free Ontario by acting on these recommendations.

Sincerely,

ORIGINAL SIGNED

Linda Stewart,
Executive Director

Copy: Dr. Arlene King, Chief Medical Officer of Health
Hon. Margarett Best, Minister of Health Promotion
Hon. John Gerretsen, Minister of Consumer Services

Encl.

alPHa Association of Local PUBLIC HEALTH Agencies

alPHa RESOLUTION A11-11

TITLE: **Provincial Adoption and Promotion of Smoke-Free Movies to Reduce the Impact of Smoking in Movies on Youth in Ontario**

SPONSOR: **Council of Ontario Medical Officers of Health**

WHEREAS tobacco use is the leading cause of preventable death and disability in Canada, accounting for the deaths of approximately 13,000 people in Ontario alone each year; and

WHEREAS the tobacco industry has a long, well-documented history of promoting tobacco use and particular brands on-screen, while obscuring its true purpose in doing so; and

WHEREAS adolescents watch more films than any other age group; movie-going is popular entertainment for youth and tobacco imagery in films is currently unavoidable; and

WHEREAS nearly 90 percent of tobacco impressions delivered to theatre audiences in Canada in 2009 were delivered by large US media conglomerates; and

WHEREAS Canadian movie rating systems classify more movies as 14A or PG that are rated R in the US resulting in 60% more tobacco imagery exposure by youth-rated films; and

WHEREAS exposure to smoking in movies is estimated to be responsible for 44% of youth uptake; and

WHEREAS an estimated 130,000 Canadian smokers aged 15-19 have been recruited to smoke by exposure to on-screen smoking, and 43,000 of them will eventually die of tobacco-caused diseases; and

WHEREAS the World Health Organization has advised all nations that have ratified the Framework Convention on Tobacco Control, a global treaty obligating Parties including Canada to prevent youth smoking and end tobacco promotion through all channels, to give an adult rating to all new films that depict smoking, whether domestically produced or imported;

NOW THEREFORE BE IT RESOLVED that the Association of Local Public Health Agencies call for the Province of Ontario to rate new movies with smoking "18A" in Ontario, and require that such films be ineligible for federal and provincial subsidies, with the sole exceptions being a clear and unambiguous demonstration of the dangers and consequences of tobacco use or a true representation of a real historical figure, who was known to smoke;

AND FURTHER that the Association of Local Public Health Agencies call for the Province of Ontario to require producers to certify on-screen that no one involved in the production of the movie received any remuneration, compensation or anything of value in consideration for using or displaying tobacco;

AND FURTHER that the Association of Local Public Health Agencies call for the Province of Ontario to require strong anti-smoking ads to be shown before any movie with tobacco use at the distributor's expense, regardless of rating and distribution channel;

AND FURTHER that the Association of Local Public Health Agencies call for the Province of Ontario to require movie producers to stop identifying tobacco brands in films.

ACTION FROM CONFERENCE: **Resolution CARRIED**

Key Messages – The Issue of Smoking in Youth-Rated Movies

Smoking in movies is a serious public health issue.

- There is a causal relationship between exposure to smoking in the movies and youth starting to smoke.
    - The more youth see smoking in movies, the more likely they are start smoking.
- In Ontario, between the years 2004–2013, 86% of new movies released with tobacco were youth-rated, much higher than in the US (54%).
    - Youth-rated movies delivered 7 billion tobacco impressions to Ontario theatre audiences between 2004 and 2013. PG rated movies delivered 44% of tobacco impressions, 14A movies delivered 41% and G rated movies delivered 1%.
    - Theatre impressions substantially underestimate exposure because it excludes home viewing, broadcast, cable, satellite, on-demand, DVD, blu-ray and streaming.
- The 2012 US Surgeon General's Report concluded that an industrywide standard to rate movies with tobacco incidents "R" could result in reductions in youth smoking. Giving an R rating to future movies with smoking would be expected to reduce the number of teen smokers by nearly 1 in 5 (18%) and prevent one million deaths from smoking among children alive today. In Ontario, based on the same projection and with greater potential exposure afforded by the Ontario Film Review Board rating practices, an adult rating (18A) would have, proportionately, an even greater impact.
- According to a Dartmouth Medical School study in 2003, the effect of smoking in movies is stronger in kids whose parents do not smoke compared to kids of parents who do smoke tobacco. There are various reasons as to why this may be the case, but one for strong consideration is that kids of parents who do not smoke do not see the negative consequences of smoking at home, and movies for the most part do not show these negative consequences on screen.

The rating system in Ontario impacts exposure to smoking.

- Currently, the Ontario Film Review Board (OFRB) operates at an arms-length agency reporting to the Ministry of Government and Consumer Services.
- The OFRB does not currently rate movies with tobacco 18A.
- In Ontario, the majority of films are rated for children and teens. Between 2004 and 2013, the OFRB rated 90% of top-grossing movies shown in both Ontario and the US as appropriate for youth; consequently, more films with tobacco incidents are youth-rated in Ontario than in the US.
    - 70% of adult-rated (R rated) movies in the US were given a youth rating in Ontario. 97% of these 'down-rated' movies were classified as 14A.

What about language, violence and other issues of concern and the freedom of expression?

- Movies already receive higher ratings based on violence, substance abuse, nudity, and a long list of other classifications. Restricting tobacco use and exposure in youth-rated movies (G, PG and 14A ratings) is about protection, not censorship. Movie producers would still be able to include tobacco under an adult rating (18A).

- Producers and directors would have to choose between featuring tobacco use or exposure in their movie and losing their largest audience (youth) or keeping tobacco out of the movie allowing for a lower rating and, in-turn, a larger audience and bigger profits.
    - The choice is obvious. Producers and directors won't risk a larger audience just to include tobacco in a movie. In the end, young Ontarians will still get to see the blockbuster films.
- Smoking rates have declined in real-life, but not in the movies. The amount of smoking in movies does not reflect or mimic reality. Rarely does tobacco use in the movies show the health consequences of smoking.

Public Health Recommendations

- **Require adult ratings for movies with tobacco imagery:** Any film that shows tobacco use or tobacco products should be given an adult rating (18A in Ontario and R in the US)
- **Certify no payoffs:** Require film producers to certify in the closing credits that no person involved in the production received anything of value (money, free cigarettes or other gifts, free publicity, interest-free loans or anything else) from anyone in exchange for displaying tobacco in the film
- **Require strong anti-smoking ads prior to movies depicting tobacco use:** Require studios and theatres to run an effective anti-tobacco advertisement (not produced by a tobacco company) before any film with any tobacco, in any distribution channel, regardless of the rating, at the expense of the distributor
- **Stop identifying tobacco brands:** There should be no tobacco brand identification in any movie scene or the presence of tobacco brand imagery (such as billboards) in the background of any scene.
- **Make media productions with smoking ineligible for public subsidy:** Public subsidy of media productions known to promote youth smoking initiation is counter to Article 13 of the World Health Organization's Framework Convention on Tobacco Control which Canada ratified in November 2004.

Public Readiness

- The Ontario public appears to be supportive of these measures with 73% of Ontarians supporting the statement that smoking should not be allowed in movies that are rated G, PG or 14A (48% strongly/28% somewhat).
- 52% of adults in Ontario agreed that movies with tobacco should be rated as Restricted.

Babayan A, Luk R, Schwartz R. Exposure to Onscreen Tobacco in Movies Among Ontario Youth, 2004-2013. Toronto, ON: Ontario Tobacco Research Unit, May 2014. http://otru.org/wp-content/uploads/2014/05/OTRU-Smoking-in-Movies.pdf

OTRU Ontario Adult Support for Restricted Ratings for Movies Showing Smoking, May 2013, http://otru.org/wp-content/uploads/2013/05/update_may2013.pdf

National Cancer Institute, *Monograph 19: The Role of the Media in Promoting and Reducing Tobacco Use,* June 2008.

Physicians for a Smoke-Free Canada, Polansky, J. Tobacco Vector: How American movies, Canadian film subsidies and provincial rating practices kill 43,000 Canadian teens alive today – and what Canadian Governments can do about it. July 2010. www.smokefree.ca/pdf_1/2010/Tobaccovector.pdf

US Surgeon General. Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General, 2012. www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/index.html

Exposure to Onscreen Tobacco in Movies among Ontario Youth, 2004-2013
Cigarettes, Marketing, Prevention, Youth and Young Adults

Authors
Alexey Babayan, Rita Luk, Robert Schwartz
Date
May 2014
Type of Report
Special Report

“Smoking in movies is a cause for smoking initiation and progression to regular smoking among youth. Higher exposure to onscreen tobacco increases the uptake of smoking among youth and undermines tobacco prevention efforts. This report examines the extent of onscreen tobacco exposure in movies among Ontario youth and estimates the impact of exposure to onscreen tobacco in movies on youth smoking.

It is estimated that, on average, 13,241 current smokers in Ontario aged 12-17 were recruited to smoking in a year because of watching smoking in movies. It is projected that, on average, 4,237 of these smokers will die prematurely as a result of tobacco imagery in movies. Ontario is very far behind the United States in restricting movies that depict tobacco use to adult viewers.”

Executive Summary

Movies are a powerful vehicle for promoting tobacco and health; authorities all over the world have concluded that smoking in movies is a cause for smoking initiation and progression to regular smoking among youth. Higher exposure to onscreen tobacco increases the uptake of smoking among youth and undermines tobacco prevention efforts.

The Ontario Tobacco Research Unit collaborated with the Ontario Coalition for Smoke-Free Movies to conduct a study to examine the extent of onscreen tobacco exposure in movies among Ontario youth. The study aimed to examine data on the number of incidents of onscreen tobacco in movies released from 2004 to 2013 and estimate the impact of exposure to onscreen tobacco in movies on youth smoking.

Data on the level of onscreen tobacco in movies was obtained from a sample of 1434 top-grossing movies (i.e. movies whose box office ranked in the top 10 for at least one week) released to theatres in the "domestic" (Canada and US) market between January 2004 and December 2013. For these movies, tobacco incidents (i.e. the occurrences of tobacco use or implied use in a movie) and tobacco impressions (number of tobacco incidents multiplied by paid admissions per movie) were analyzed.

Key findings of the study include:

- Of 1434 top-grossing movies released in theatres from 2004 to 2013, 1289 (90%) were youth-rated in Ontario, with 633 rated PG (44%), 500 rated 14A (35%), 156 rated G (11%). Adult-rated movies accounted for 10% of the sample, with 144 movies rated 18A and a single movie rated R.
- A total of 818 movies (57%) featured onscreen tobacco. Eighty-six percent (701/818) of movies with tobacco were youth-rated in Ontario, much higher than in the US (54%, 440/818). As a result, Ontario youth had greater exposure to onscreen tobacco imagery than their US counterparts.
- The top grossing movies contained a total of 26,850 tobacco incidents. Eighty-five percent of tobacco incidents were depicted in movies that were youth-rated in Ontario, twice the percentage (42%) found in US youth-rated movies. Although the average number of tobacco incidents per movie decreased by 16% in the past 10 years (22.1 in 2004 to 18.5 in 2013), Ontario youth still had higher chances of exposure to onscreen tobacco than their

US counterparts because a greater share of tobacco incidents were depicted in Ontario youth-rated movies.

- The trend in tobacco impressions largely resembled that of the tobacco incidents, a decline between 2005 and 2010 followed by a rebound in 2011 and 2012 and a slight decrease in 2013. There was a 13% decrease (1024 million to 892 million) in annual tobacco impressions between 2004 and 2013. The top-grossing movies delivered an estimated 8.1 billion in-theatre tobacco impressions to moviegoers in Ontario from 2004 to 2013. Youth-rated movies delivered the vast majority of tobacco impressions (86%, overall) to Ontario audiences.
- Discrepancies exist between the number of movies that have tobacco related labels issued by the Ontario Film Review Board (OFRB) and the number of movies with tobacco incidents reported by independent monitors. In 2008 the OFRB included a "tobacco use" detailed observation for movies listed at http://www.ofrb.gov.on.ca/. Of 749 movies released between 2008 -2013, 51% (379/749) depicted tobacco, as reported by independent monitors, while just 34% (255/749) received a "tobacco use" detailed observation by the OFRB. In addition, the OFRB also assigned an "illustrated or verbal reference to drugs, alcohol or tobacco" detailed observation to 28% of these movies (206/749). The OFRB issued tobacco-related observations to 78% (296/379) of the movies that independent monitors had identified as depicting tobacco imagery.
- On March 2012, the OFRB included a 'tobacco use' content advisory when classifying movies. Between Mar 2012- 2013, 237 movies were released; 54% (127/237) depicted tobacco incidents as reported by independent monitors, while 6% (14/237) were given a 'tobacco use' content advisory by the OFRB.
- The Smoke-Free Ontario Scientific Advisory Committee notes that an effective way to reduce youth exposure to onscreen tobacco in Ontario is to require adult ratings (18A in Ontario) for movies with any tobacco imagery. This policy measure has been recommended by public health stakeholders and institutions provincially, nationally and internationally.
- Over the seven years (2005, 2007-2012) where data were available, it is estimated that, on average, 13,241 current smokers in Ontario aged 12-17 were recruited to smoking in a year because of watching smoking in movies. It is projected that, on average, 4,237 of these smokers will die prematurely as a result of tobacco imagery in movies.

ONTARIO COALITION FOR SMOKE-FREE MOVIES

Canadian Cancer Society, Ontario Division • Heart and Stroke Foundation of Ontario
Non-Smokers' Rights Association/Smoking and Health Action Foundation • Ontario Lung Association
Ontario Tobacco Control Area Networks of Public Health Units • Physicians for a Smoke-Free Canada

www.smokefreemovies.ca

The Impact of Smoking in Movies on Children & Youth

THE PROBLEM:

A significant amount of research examining the prevalence of smoking in movies and its impact on youth smoking has shown a causal relationship between exposure to smoking in movies and youth starting to smoke.

The history of the tobacco industry's collaboration with Hollywood to promote smoking in movies, including payment for the placement of tobacco products in movies, is well documented. According to the tobacco industry, "**Film is better than any commercial that has been run on television or in any magazine, because the audience is totally unaware of any sponsor involvement**."[1]

Today, tobacco use in films remains widespread.[2] The influence of smoking in movies on young people should not be surprising, given the pervasive influence of Hollywood on popular culture and the fact that most other vehicles of tobacco promotion have been banned, especially in Canada.

In 1998 US tobacco companies entered into a legally-binding agreement with state attorneys general that prohibits paid brand placement in entertainment accessible to young people. From 2002 to 2013, the number of smoke-free youth-rated movies in the US (G, PG, PG-13) increased; however, in movies that showed any smoking, the average number of tobacco incidents per movie also increased.[3] In Ontario, between 2004-2013, 86% of new movies released with tobacco were youth-rated, much higher than in the US (54%**). As a result, Ontario youth had even greater exposure to onscreen tobacco imagery than their US counterparts**.[4]

THE EVIDENCE:

The US National Cancer Institute reviewed the existing scientific evidence in 2008 and reached the following conclusion: **"The total weight of evidence from cross-sectional, longitudinal and experimental studies indicates a causal relationship between exposure to smoking in movies and youth smoking initiation."**[5]**.**

Rigorous, peer-reviewed studies in the UK, US, New Zealand and across Europe have consistently found that **the more smoking young people see on screen, the more likely they are to smoke.**

The 2012 US Surgeon General's Report (*Preventing Tobacco Use Among Youth and Young Adults*) concluded that an industrywide standard to rate movies with tobacco incidents R could result in reductions in youth smoking.[12]

Giving an R rating to future movies with smoking would be expected to reduce the number of teen smokers by nearly 1 in 5 (18%) and prevent one million deaths from smoking among children alive today.[15] In Ontario – based on the same projection and with greater potential exposure afforded by the Ontario Film Review Board rating practices – an adult rating (18A) for future movies with smoking would have, proportionately, an even greater impact.[4]

RATING SYSTEM IMPACT ON EXPOSURE:

In Canada films must be classified and film ratings are determined by provincial film review boards that are government agencies, unlike in the U.S., where the motion picture industry is self-regulated and the rating system is voluntary.

In Ontario, the Ontario Film Review Board (OFRB) operates as an arms-length agency reporting to the Minister of Consumer Services.[7] The OFRB classifies film to provide the public with information to make informed viewing choices for themselves and their children including:

- G (General or suitable for all);
- PG (Parental Guidance);
- 14A (persons younger than 14 must be accompanied by an adult);
- 18A (persons younger than 18 must be accompanied by an adult); and
- R (restricted to persons over 18).

Film ratings directly affect the amount of exposure to tobacco in films that young people receive.

The OFRB does not currently rate movies with tobacco 18A.

In Ontario, the majority of films are rated for children and teens (Figure 10).[4] "From 2004 to 2013, the OFRB rated 90% of the top-grossing movies shown in both Ontario and the United States as appropriate for youth; 44% of all movies were rated PG, 35% were rated 14A and 11% were rated G".[4]

Figure 10: Percentage of Movies Youth-rated in Ontario and US, 2004-2013

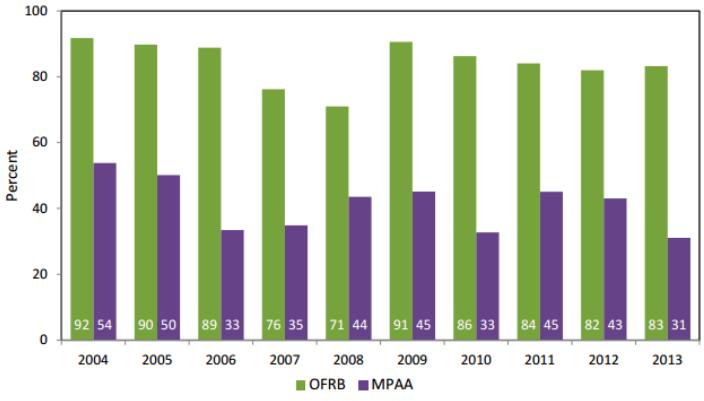
Consequently, more films with tobacco incidents are youth-rated in Ontario than in the US (Figure 11). "From 2004 to 2013, the percentage of youth-rated movies in Ontario was greater than in the US - 70% of adult-rated (R rated) movies in the US were given a youth rating in Ontario. Ninety-seven percent) of these "down-rated" movies were classified as 14A in Ontario".[4]

"In Ontario, 85% of all tobacco incidents in top-grossing movies released in theatres from 2004 to 2013 were found in youth-rated movies".[4] The number of tobacco impressions is calculated by multiplying the number of tobacco incidents per film by the number of paid admissions per film.[4,]

"Youth-rated movies delivered **7 billion tobacco impressions to Ontario theatre audiences between 2004 and 2013**".[4] "PG rated movies delivered 44% of tobacco impressions, 14A movies delivered 41% and G rated movies delivered 1%."[4]

"Theatre impressions substantially underestimate total exposure because they include only in theatre exposure, but not home media viewing, broadcast, cable, satellite, on-demand, DVD, blu-ray and streaming."[15]

Figure 11: Percentage of Tobacco Incidents in Youth-rated Movies in Ontario and US, 2004-2013



PUBLIC HEALTH RECOMMENDATIONS:

The **World Health Organization** concluded that the more on-screen smoking adolescents see, the more likely they are to smoke and endorses five solutions to reduce tobacco depiction in movies**:** [9]

1. ***Require adult ratings for movies with tobacco imagery:*** Ratings can help solve the problem of youth exposure. Any film that shows tobacco use or tobacco products should be given an adult rating.(R in US, 18A in Ontario).

2. ***Certify no payoffs:*** Require film producers to certify in the closing credits that no person involved in the production received anything of value (money, free cigarettes or other gifts, free publicity, interest-free loans or anything else) from anyone in exchange for displaying tobacco in the film.

3. ***Require strong anti-smoking ads prior to movies depicting tobacco use***: Require studios and theatres to run an effective anti-tobacco advertisement (not produced by a tobacco company) before any film with any tobacco, in any distribution channel, regardless of the rating, at the expense of the distributor.

4. ***Stop identifying tobacco brands****:* There should be no tobacco brand identification in any movie scene or the presence of tobacco brand imagery (such as billboards) in the background of any scene.

5. Make media productions with smoking ineligible for public subsidy: Public subsidy of media productions known to promote youth smoking initiation is counter to WHO FCTC Article 13 and its guidelines**.**

In November 2004, Canada ratified the **WHO's Framework Convention on Tobacco Control, which requires Parties to implement a comprehensive ban on all forms of tobacco promotion (Article 13**). Guidelines on the implementation of Article 13 recommend a set of measures regarding tobacco use in films, including a ban on tobacco brands, imagery, and use in youth-rated movies. [10. 11]

U.S. Surgeon General's 2012 and 2014 Reports concluded:

- "Studies have shown that movies deliver billions of images of smoking to young audiences..." [12]
- "**The evidence is sufficient to conclude that there is a causal relationship** between depictions of smoking in the movies and the initiation of smoking among young people..." [12]
- "An MPAA policy to give films with smoking an adult (R) rating [in the US], as recommended by the World Health Organization, the U.S. Centers for Disease Control and Prevention, and other authorities, could eliminate youth-rated films as sources of exposure to on-screen smoking imagery and reduce the exposure of youth to smoking in movies." [12]
- **"The adoption of such policies would contribute to a reduction in adolescent smoking behavior."** [12]
- "Actions that would eliminate the depiction of tobacco use in movies, which are produced and rated as appropriate for children and adolescents, could have a significant effect on preventing youth from becoming tobacco users." [15]
- In addition, because smoking in movies is such a major source of pro-tobacco media exposure, if smoking in PG-13-rated movies was reduced to the fifth percentile of exposure, youth smoking rates could be reduced by 18% (Sargent et al.). [15]

Public Health Ontario's Smoke-Free Ontario Scientific Advisory Committee Report 2010 recommendations[13] were included in the **Tobacco Strategy Advisory Group's report to the Minister of Health Promotion and Sport in 2010** to inform Ontario's Tobacco Control Strategy for 2011 – 16[14].

[5.2] Require adult ratings for movies (18A) and video games (Mature) with any tobacco imagery.

[5.3] Require ads that aim to denormalize tobacco companies and change social norms related to tobacco products and their use preceding movies and video games that contain tobacco imagery, as well as warnings on movie and video game packaging.

Public Support: The Ontario public appears to be supportive of these measures - "73% of Ontarians 'support' (48% strongly/28% somewhat) 'not allowing smoking in movies that are rated G, PG or 14A"' [16] and "52% of adults in Ontario agreed that movies with tobacco should be rated as restricted (R).[17]

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ONTARIO COALITION FOR SMOKE-FREE MOVIES

Canadian Cancer Society, Ontario Division • Heart and Stroke Foundation of Ontario
Non-Smokers' Rights Association/Smoking and Health Action Foundation • Ontario Lung Association
Ontario Tobacco Control Area Networks of Public Health Units • Physicians for a Smoke-Free Canada

www.smokefreemovies.ca

Ontario Public Survey Results March 2011

On behalf of the Ontario Coalition for Smoke Free Movies, the Heart and Stroke Foundation of Ontario commissioned Ipsos Reid to conduct a public opinion survey in Ontario to gain an understanding of public perception regarding smoking in movies, how exposure to smoking in movies impacts teenagers as well as public support for policy initiatives to reduce youth exposure to on-screen tobacco.

Methodology:
Among Ontarians 18+, 812 interviews were conducted using Ipsos' online omnibus from March 25 to 30, 2011 (results were weighted on region, age, and gender to ensure the sample matched the actual adult population of Ontario). A sample of this size has a margin of error +/-3.1%, 19 times out of 20.

Smoking in Movies:
- 51% of Ontarians recall having recently seen smoking in movies frequently and occasionally. This increases among young adults (age 18-35), with 61% recall having seen smoking in movies.
- However, when asked, 53% also agree that is rarely any smoking in movies anymore.
- Overall Ontarians are unsure if exposure to smoking in movies impacts teens, only 48% indicated the statement was true.
- Even more are unaware of the role of the tobacco industry in movies with only 41% believing it's true that the tobacco industry has paid for product placement, one in ten (11%) believe this to be false and nearly half (48%) are unsure.
- Only 26% believes it's true that the tobacco industry had paid actors to smoke onscreen while two in ten (20%) believe this to be false and majority (54%) don't know.

Support for Policy Initiatives:
Ontarians supported the following policy initiatives, and support for all policy initiatives increased after respondents were told that an estimated 130,000 of the 300,000 teenage smokers in Ontario began smoking as a result of exposure to smoking in movies.

- 73% supported not allowing smoking in movies that are rated G, PG or 14A, which increased to 77% on receiving the new information.
- 53% supported changing movie ratings so that movies with smoking will get an 18A rating, which increased to 63%.
- 70% supported not allowing tobacco logos, which increased to 75%.
- 68% supported requiring anti-smoking ads prior to movies with smoking, which increased to 73%.

The evidence is clear. The support is strong. The time to act is now.
Protect our Youth. Get tobacco out of youth-rated movies in Ontario.

Ipsos Reid data tables available at www.ipsos-na.com/news-polls/pressrelease.aspx?id=5251.

REGION OF PEEL

Evidence for Practice

CD&IP RAPID REVIEWS NOV 2012

STAGES IN EVIDENCE INFORMED PUBLIC HEALTH

1. Clearly define the question or problem
2. Efficiently search for research evidence
3. Critically appraise the research sources
4. Synthesize data and form recommendations
5. Adapt the information to the local context
6. Implement
7. Evaluate

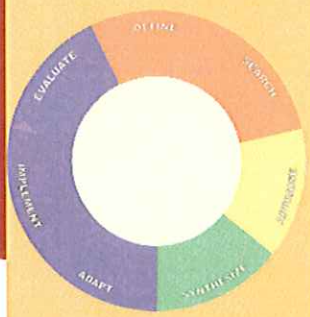

Image from nccmt.ca

Sharing the Research Evidence

Interventions to Reduce the Impact of Smoking in the Movies on the Smoking Behaviours of Youth: A Rapid Review

Julie Spurrell & Linda Pope Nov 2012

Rapid Review Findings

Question:
What interventions will reduce the impact that smoking in the movies has on the smoking behaviours of youth?

Overview of the Search Process:

- A systematic search was used to identify 88 papers relevant to the research question.
- After applying inclusion and exclusion criteria, seven papers were independently assessed for quality by two reviewers.
- One guideline and one longitudinal cohort study quality assessed as strong, and one case-control study quality assessed as moderate inform the findings of this review.

Conclusions:

1. Five studies from the guideline found that parental restrictions on viewing R-rated movies and videos lowered the risk of smoking in children and adolescents.
2. Two studies from the guideline and the single case-control study found that showing an anti-smoking advertisement before a movie depicting smoking reduces the persuasive effect that smoking in the movies has on attitudes towards smoking and intentions to smoke of children, adolescents, and adults.
3. The single longitudinal cohort study examined smoking onset among children and adolescents in relation to movie smoking exposure in G/PG, PG-13, and R-rated films. The authors found that assigning an R-rating to movies with smoking imagery reduces smoking initiation among children and adolescents.

Implications for Practice

Peel Public Health determined it would:

- Support policies or interventions that recommend parental restrictions on R-rated movies, as well as other movies with smoking imagery in order to reduce the exposure of children and adolescents to movie smoking.
- Endorse the policy recommendations of the Ontario Coalition for Smoke-Free Movies and the World Health Organization that showing anti-smoking ads prior to movies with smoking, and placing R-ratings on movies with smoking, are effective interventions for preventing smoking among children and adolescents.

Interventions to Reduce the Impact of Smoking in the Movies on the Smoking Behaviours of Youth: A Rapid Review

Julie Spurrell, Research and Policy Analyst
Linda Pope, Manager, Chronic Disease and Injury Prevention

October 2012

Region of Peel
Working for you

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Key Messages

- Exposure to smoking in movies causes tobacco use among children and adolescents.

- There are current international, national, provincial, and regional efforts aimed at raising awareness of the impact smoking in movies has on children and adolescents.

- High quality evidence suggests that parental restrictions on the viewing of R-rated movies translate into lower risk for children and adolescent smoking.

- One high quality study shows that an R-rating for movies with smoking could reduce the risk of children and adolescents starting smoking.

- There is moderate quality evidence that placing anti-smoking ads before movies depicting smoking reduces the persuasive effect movie smoking can have on the attitudes towards smoking and intentions to smoke of children, adolescents, and adults.

Executive Summary

Research Question

What interventions will reduce the impact that smoking in the movies has on the smoking behaviours of youth?

Context

Adolescents are the most frequent movie-goers, and are exposed to billions of tobacco impressions annually. According to one study in the US Surgeon General's Report, this equates to an average of 665 gross smoking impressions per US adolescent aged 10-14 years.[1] This exposure has been shown to cause tobacco use among this age group.[1,2] Many organizations are currently advocating for increased awareness of the impact smoking in movies has on children and adolescents, as well as policies and interventions aimed at reducing tobacco exposure in films. Peel Public Health is assessing its role in supporting local and provincial advocacy efforts.

Methods and Results

- A systematic search was used to identify 88 papers relevant to the research question.
- After applying inclusion and exclusion criteria, seven papers were independently assessed for quality by two reviewers. These included two guidelines, two literature reviews, and three single studies.
- The final studies in this review include one guideline and one longitudinal cohort study that were quality assessed as strong, and one case-control study that was quality assessed as moderate.

Synthesis of Findings

- Five studies found that parental restrictions on viewing R-rated movies and videos lowered the risk of smoking in children and adolescents.
- Two studies from the guideline and the single case-control study found that showing an anti-smoking ad before a movie depicting smoking is an effective strategy for reducing the persuasive effect that smoking in movies has on the attitudes toward smoking and the intentions to smoke of children, adolescents, and adults.
- The single longitudinal cohort study examining smoking onset amongst children and adolescents in relation to movie smoking exposure in G/PG, PG-13, and R-rated films found that assigning R-ratings to movies with smoking imagery could reduce smoking initiation among children and adolescents.

Recommendations

- Peel Public Health should support policies or interventions that recommend parental restrictions on R-rated movies, as well as other movies with smoking imagery in order to reduce the exposure of children and adolescents to movie smoking.
- Peel Public Health should endorse the policy recommendation of the Ontario Coalition for Smoke-Free Movies that showing anti-smoking ads prior to movies with smoking is an effective intervention for preventing smoking among children and adolescents.
- Peel Public Health should endorse the policy recommendation of the Ontario Coalition for Smoke-Free Movies for placing an R-rating on movies with smoking imagery.

1 Issue

National and international organizations are advocating for measures to limit smoking in movies as part of a comprehensive tobacco control strategy.

The entertainment industry has a profound impact on attitudes and behaviours, particularly among young people.[2] Tobacco companies have used movies as a platform for advertising from as early as the 1920s,[1] using product placement and false imagery to establish the prototype of the rebellious smoker, which continues to attract adolescents to smoking today.[2] Additionally, as a result of legislative changes related to tobacco product access and advertising, images of smoking in movies and on television today may be some of the more potent media-delivered smoking images seen by children and adolescents.[1] The 2012 US Surgeon General's Report concludes that exposure to smoking in movies causes tobacco use among children and adolescents.[1]

The Ontario Coalition for Smoke-Free Movies focuses on awareness-raising of the issue of smoking in movies and its impact on youth smoking behaviours, education for parents, and advocacy for specific policies aimed at reducing the impact of smoking in the movies on youth smoking behaviours.[4] The Coalition is encouraging Tobacco Control Area Networks to participate in a delegation process on the issue of smoking in movies in order to increase awareness among local Members of Provincial Parliament (MPPs) of the negative impact smoking and tobacco product imagery in movies has on children and adolescents. Delegations will begin in October 2012 and will continue until participants have had the opportunity to meet with their MPP.

This review focuses on the effectiveness of interventions to reduce the impact of movie smoking on youth smoking behaviours. Based on the research evidence presented in this review, Peel Public Health will determine whether it will participate in the work of the Ontario Coalition for Smoke-Free Movies, and develop an overall strategy to address the issue of smoking in the movies.

2 Context

Within the Region of Peel in 2011, approximately 19% of youth between grades 7 and 12 reported ever trying a cigarette; this increases from 2% in grade 9, to 36% by grade 12.[5] The majority of youth (29%) report trying their first cigarette before grade 9, and by grade 12, 6% of youth are smoking daily.[5]

Exposure

Adolescents are the most frequent movie-goers. In 2010 in the US and Canada, adolescents aged 12 to 17 years saw an average of eight movies per year in theatres, and those aged 18 to 24 years saw an average of seven movies per year.[6] Adolescents comprise nearly 17% of the audience for G/PG rated movies, more than 20% of the audience for PG-13 rated movies, and more than 10% of the audience for R-rated movies.[6]

Despite agreements that prohibit payments for branded-product placement in motion pictures, enforced policies among three major motion picture companies to limit smoking imagery, and film rating systems aimed at restricting admission to films with hazardous content for younger viewers, movies continue to deliver billions of tobacco impressions to adolescents.[1] According to

one 2003 study from the 2012 US Surgeon General's Report, this equates to an average of 665 gross smoking impressions* per US adolescent aged 10-14 years.[1]

Between 2002 and 2010, 62% of the top grossing films in the US featured tobacco imagery.[4] One study in the 2012 US Surgeon General's Report found that a sample of youth-rated movies (G, PG, and PG-13) contained 40% of the smoking occurrences in movies, but delivered 61% of smoking impressions to youth aged 10 to 14 years because of that group's higher viewership of movies.[1]

Research conducted by the Ontario Coalition for Smoke-Free Movies indicates that in 2009, Canadian theatres delivered over one billion tobacco impressions† in youth-rated films alone.[3] Although most movies viewed in Canada are produced by US companies, the number of youth-rated films with tobacco depictions is higher in Canada than the US because provincial film boards classify some movies that are rated R in the US as 14A or PG.[4] In 2009, 125 of the 145 movies released in Canadian theatres that showed tobacco use were youth-rated films (G, PG, 14A), delivering more than two-thirds (68%) of all in-theatre tobacco exposures.[4] These numbers are likely an underestimate of the true reach of movies because of Internet downloads, DVD's, movie rentals, and other forms of access.[4]

The Ontario Film Review Board (OFRB) has the authority to review and classify films; these ratings are used to provide the general public advanced information about the nature of the

* Gross impressions are the total number of exposures delivered by a media schedule, such as all showings of a given film

† Calculated by multiplying the number of tobacco incidents per film by the number of paid admissions per film

content of the film, as well as restrict admission to films whose content is inappropriate, unsuitable or hazardous for younger viewers.[4] A variety of factors including sexual content, inappropriate language, and as of 2008, tobacco use, are listed under Content Advisories, which informs the public of the major factors that led to the film's classification.[7]

Link to Adolescent Smoking

The 2012 US Surgeon General's Report found that adolescents exposed to smoking in movies were 1.93 times more likely to smoke.[1] Based on population studies conducted between 2003 to 2009, exposure to on-screen smoking accounts for 44% of new adolescent smokers in the US.[6]

Movies use techniques to make smoking appealing to youth. The characters depicted as smokers are typically those with aspirational traits such as maturity, affluence, attractiveness, or power. These traits do not reflect the social reality of smoking.[1,2] Additionally, the health consequences of smoking are rarely shown.[2] Smoking in films influences young people's beliefs about social norms for smoking, beliefs about the function and consequences of smoking, and their personal intention to smoke.[6]

Efforts to Raise Awareness

There is a world-wide movement aimed at reducing the exposure of children and youth to smoking in the movies.

Various international agencies such as the Office on Smoking and Health at the Centers for Disease Control and Prevention in the US, the World Health Organization (WHO) Framework

Convention on Tobacco Control (FCTC), and country-specific responses in the US, China, India, the UK, Malaysia, and Africa have developed actions to reduce tobacco imagery in movies. [6] In Canada, national and some provincial-level health non-governmental organizations have forwarded their endorsement to policy makers concerned with film classification and tax policy, and embarked on public opinion polling and public education campaigns to support policy change to reduce smoking in the movies.[6]

Ontario

The Ontario Coalition for Smoke-Free Movies was formed in 2010 with the goal of taking collective action toward the harmful impact of smoking in movies. The coalition supports five WHO FCTC recommendations to reduce the exposure of children and youth to smoking in movies:

Membership of the Ontario Coalition for Smoke-Free Movies
Tobacco Control Area Networks (TCANs)
Non-Smokers' Right Association
Smoking and Health Action Foundation
Heart & Stroke Foundation
Ontario Lung Association Youth Advocacy Training Institute (YATI)
The Ontario Tobacco Research Unit
The Program Training and Consultation Centre – Media Network
The Canadian Cancer Society

- Classify films with tobacco use as adult-rated (R).
- Require all distribution channels to show strong anti-smoking ads prior to movies depicting tobacco use.
- Certify no payment for displaying tobacco[‡]
- Prohibit tobacco brand displays.
- Make youth-rated films that show tobacco imagery ineligible for government film subsidies.[4,6]

[‡] Films showing tobacco use should include a declaration in the closing credits that no persons involved with the production of the movie received anything of value in exchange for using or displaying tobacco products in the film.

Central East Tobacco Co-ordination Area Network (TCAN)

The Central East TCAN, of which Peel Public Health is a member, has included smoke-free movies in its 2012 Regional Action Plan, with objectives aimed at 1) educating parents, community members, and youth about the impact of smoking and tobacco product imagery on children and youth, 2) exposing tobacco industry propaganda, and 3) gathering public and stakeholder support for the five recommended policy changes endorsed by the WHO and the Ontario Coalition for Smoke-Free Movies.[8]

3 Conceptual Framework

The conceptual model outlines the source of exposure for smoking in the movies, the target audience, how movies portray smoking, and the subsequent decision-making and behavioural outcomes. The model recognizes environmental, social, and genetic factors outside of smoking in the movies that impact youth smoking behaviours. The conceptual model is presented in Appendix A.

4 Literature Review Question

The research question for the literature review was "What interventions will reduce the impact that smoking in the movies has on the smoking behaviours of youth?"

The research question can be described in the PICO format:

P (Population)	Youth
I (Intervention)	Any interventions related to smoking in movies
C (Comparison)	No intervention
O (Outcome)	Youth smoking behaviours

5 Literature Search

The initial phase of the literature search took place in July 2012 with known summary and grey literature sources, including the World Health Organization, the Centers for Disease Control and Prevention, and the National Institute for Clinical Excellence. In August 2012, a search was conducted on health-evidence.ca and the following databases: EBM Reviews, Cochrane Database of Systematic Reviews, Global Health, Ovid Medline, and PsycINFO. Search limits included studies published in the English language in the last ten years. In July and August 2012, expert opinion, Google Scholar, and the reference list of the 2012 US Surgeon General's Report were sought or reviewed to identify additional articles. The final search identified 88 articles. The complete search strategy including search terms used is presented in Appendix B.

Two reviewers independently reviewed titles and abstracts to determine relevance. Discrepancies were discussed and a mutually agreed decision was made. Studies were considered relevant if they met the following criteria:

> *Inclusion criteria:* English language, published in the last ten years, had a focus on adolescents/youth/children, focused on interventions that address smoking in the movies, and addressed smoking behavioural pre-cursors or behaviours in the outcome.
> *Exclusion Criteria:* duplicates, not published within the last ten years or in the English language, not focused on adolescents, youth, or children, or did not address interventions specific to smoking in the movies.

Following relevance assessment, a total of eight papers remained, including two guidelines, two systematic reviews, and four single studies, although one study was discussed in a guideline and subsequently excluded, resulting in a total of seven relevant papers. The search results flowchart is presented in Appendix C.

6 Critical Appraisal

In total, seven papers were appraised. The two guidelines were appraised using the AGREEII tool; the two literature reviews were appraised using the Health Evidence Validity Tool for Review articles; and the three single studies were appraised using the Critical Appraisal Skills Program (CASP) critical appraisal tools. All seven studies were appraised independently by two reviewers and discrepancies were resolved by discussion.

One guideline received a strong quality rating, and one weak due to a lack of clear methodology. Both literature reviews received a low quality rating due to a poor description of methods. Among the single studies, one case-control study received a weak rating due to poor scoring in questions related to the study's validity and was eliminated; one case-control study received a moderate rating, and the cohort study received a strong rating.

As a result, studies included in this review are the 2012 US Surgeon General's Report, which was quality rated as strong, one strong quality rated cohort study by Sargent et al. (2012), and one moderate quality rated case-control study by Hanewinkel et al. (2010). Single studies were included because they either examined interventions that were not covered in the guideline, corroborated findings from the guideline by providing additional detail, or were more recent.

7 Description of Included Studies

2012 US Surgeon General's Report

The 2012 US Surgeon General's Report "Preventing Tobacco Use among Youth and Young Adults" reviewed the association between "Images of Smoking in Movies and Adolescent Smoking". It includes research on the impact of smoking in movies on youth smoking behaviours. Seven studies on either parental controls or anti-smoking ads as interventions to reduce the impact of movie smoking were reviewed.

Three cross-sectional and two longitudinal cohort studies examined parental controls. All measured the exposure of children and adolescents (sample size range N = 1,687 to 4,544; age range 9-15 years) to R-rated movies and/or videos using either a self-reported school- or telephone-based survey. The studies controlled for variables including personality characteristics, parental style and parental oversight of smoking behaviour, socio-demographics, school attachment and function, and other social influences such as family and friend smoking behaviours. Adjusted odds ratios or adjusted relative risks were used to assess the risk between parental controls and prevalence of tried smoking (the number of youth who have tried smoking), susceptibility to smoking (an individual's inability to rule out smoking in the future or to rule out smoking if a peer offers them cigarettes), incidence of tried smoking (the number of new cases of youth who have tried smoking compared to baseline measure), and smoking and binge drinking.[1]

One randomized controlled trial and one case-control study used a post-movie survey to examine the impact of anti-smoking advertisements (ads) shown before movies with smoking. Both

compared adolescents [n = 232 (US); n= 2038 (Australia)] exposed to a pre-film anti-smoking ad to those not exposed to the ad on beliefs about smokers, opinions of smoking in the movies, arousal evoked by smoking scenes, and personal intentions to smoke. Additional details on the methods for both of these studies were not provided.[1,2]

Hanewinkel, Isensee, Sargent, & Morgenstern (2010)

The case-control study by Hanewinkel et al. (2010) examined the effectiveness of an anti-smoking ad on opinion towards smoking and intentions to smoke. Over four weeks 4,073 patrons aged ten to 90 years who were exiting theatres in Kiel, Germany were randomly recruited to anonymously complete a one-page questionnaire. During weeks one and three, an anti-smoking ad was shown before all movies (intervention); during weeks two and four, no anti-smoking ad was shown (control). The ad used showed the health-damaging effects of smoking and promoted cessation.

Research assistants classified the amount of smoking content for each movie rating. Participants were asked what movie they had seen, whether there was any smoking in the movie, their smoking status, their level of approval of smoking in the movie, their opinion of smoking in general, their intention to smoke, and their desire to smoke based on 11-point Likert scales. Smokers' level of addiction was determined using the Heaviness of Smoking Index and smokers were asked when they had smoked their last cigarette prior to entering the theatre.[9]

Sargent, Tanski, & Stoolmiller (2012)

The longitudinal cohort study by Sargent et al. (2012)'s examined the association between movie smoking exposure according to movie ratings and smoking onset amongst 6,522 US children and

adolescents aged ten to 14 years. Participants were recruited using random digit dial methods and were surveyed by telephone every eight months for two years. Media exposures, tobacco and alcohol use, socio-demographic characteristics, and other risk factors were surveyed.

Exposure to smoking in movies was estimated by examining the top 100 movies with the highest US gross revenues each year for the five years preceding the survey (1998-2002), and 32 high-earning movies during the first four months of 2003, which included a selection of older movies. Of these 532 movies in total, a random selection of 50 titles was chosen for each adolescent interview. Movie selection was stratified according to the Motion Picture Association of America rating so that the survey reflected a distribution of G/PG, PG-13, and R-rated movies. Respondents were asked whether they had seen each movie title on their unique list.

Trained coders counted the number of smoking occurrences in each of the 532 movies, defined as whenever a major or minor character handled or used tobacco in a scene or when tobacco use was depicted in the background. The number of smoking occurrences was summed for each adolescent's list of 50 movies, and then stratified according to rating block. Movie smoking exposure was classified as high or low based on the number of smoking occurrences, with high representing occurrences in the 95^{th} percentile and low representing occurrences in the 5^{th} percentile.

Smoking initiation was assessed by asking "Have you ever tried smoking a cigarette, even just a puff?" Covariates, including age, gender, race, parent education, and household income were gathered.[10]

8 Synthesis of Findings

Table 1 describes a summary of relative effectiveness for each type of intervention.

Table 1: Relative Effectiveness and Description of Results based on Intervention

Intervention	Outcomes	Effect	Summary
Parental control over R-rated movie/video watching (3 cross-sectional & 2 longitudinal cohort studies)	Prevalence of tried smoking *(number of youth who have tried smoking in their lifetime)*	Never: *__RR 0.29__ __(95% CI 0.19-0.45)__ Once in awhile: __* RR 0.74__ __(95% CI 0.65-0.85)__	Children who are never allowed to watch R-rated movies are 71% less likely to have tried smoking compared to children who watch R-rated movies all the time; children who are allowed to watch R-rated movies once in awhile are 26% less likely to have tried smoking.
	Susceptibility to smoking *(an individual's inability to rule out smoking in the future or to rule out smoking if a peer offers them a cigarette)*	Watching with co-viewing: __* RR 0.72__ __(95% CI 0.54-0.96)__ Prohibited: __* RR 0.54__ __(95% CI 0.41-0.70)__	Children who co-view R-rated movies with their parents are 28% less susceptible to smoking compared to children who watch R-rated movies with no parents; children who are prohibited from watching R-rated movies are 46% less susceptible to smoking.
	a) Smoking susceptibility b) Tried smoking prevalence	a) Partial restriction: __* OR 2.1__ __(95% CI 1.5-2.8)__ No restriction: __* OR 3.3__ __(95% CI 2.3-4.6)__ b) Partial restriction: __* OR 1.5__ __(95% CI 1.0-2.8)__ No restriction: __* OR 2.5__ __(95% CI 1.7-3.7)__	Among children who have partial restrictions from watching R-rated movies, the odds of smoking susceptibility are 2.1 times greater and the odds of having tried smoking are 1.5 times greater than children who have full restrictions from watching R-rated movies. Among children who have no restrictions from watching R-rated movies, the odds of smoking susceptibility are 3.3 times greater and the odds of having tried smoking are 2.5 times greater than children who have full restrictions from watching R-rated movies.
	Incidence of tried smoking *(compared to baseline, the number of new smokers within a defined time period)*	Once in awhile: __* RR 1.8__ __(95% CI 1.1-3.1)__ Sometimes/all the time: __* RR 2.8 (95% CI 1.6-4.7)__	Children who are allowed to watch R-rated movies once in awhile are 1.8 times more likely to try smoking compared to children who are never allowed to watch R-rated movies; children who are allowed to watch R-rated movies sometimes/all the time are 2.8 times more likely to try smoking.
	a) Tried smoking incidence b) Smoking and binge drinking (*youth who smoke and consume 5+ alcoholic drinks in one sitting)*	**a)** Once in awhile: RR 1.19 (95% CI 0.85-1.67) Sometimes: __* RR 1.71__ __(95% CI 1.33-2.20)__ All the time: __* RR 1.85__ __(95% CI 1.27-2.69)__ **b)** Once in awhile: __* RR 1.64__ __(95% CI 1.05-2.58)__ Sometimes: __* RR 2.30__ __(95% CI 1.53-3.45)__	Children who are allowed to watch R-rated movies once in awhile are no more likely to try smoking compared to children who are never allowed to watch R-rated movies. Children who are allowed to watch R-rated movies once in awhile are 1.6 times more likely to smoke and binge drink compared to children who are never allowed to watch R-rated movies. Children who are sometimes allowed to watch R-rated movies are 1.7 times more likely to try smoking and 2.3 times more likely to smoke and binge drink compared to children who are never allowed to watch R-rated movies. Children who are allowed to watch R-rated movies all the time are 1.9 times more likely to try smoking

Intervention	Outcomes	Effect	Summary
		All the time: *** RR 2.92 (95% CI 1.83-4.67)**	and 2.9 times more likely to smoke and binge drink compared to children who are never allowed to watch R-rated movies.
Anti-smoking advertisement (ad) prior to movie with smoking (1 randomized controlled trial; 2 case-control studies)	Arousal from smoking scenes *(to what extent the scene was happy, sad, boring, or exciting)*	*** t= 2.19, p<0.05**	Smoking scenes in the movies generated positive arousal among adolescents who did not see the anti-smoking ad, but not among those who did see the anti-smoking ad.
	Beliefs about a smokers' stature *("How does a teenager who smokes cigarettes look to you?")*	*** t=2.33, p<0.05**	Adolescents not exposed to the anti-smoking ad had more favourable beliefs about a smokers' stature compared to adolescents who saw the anti-smoking ad.
	Beliefs about how smokers perceive their stature *("If you were to smoke cigarettes, how do you think it would make you feel?")*	*** t=2.32, p<0.05**	Adolescents not exposed to the anti-smoking ad had more favourable beliefs about how smokers perceive their own stature compared to adolescents who saw the anti-smoking ad.
	Intention to smoke (*"Do you think you will smoke at any time during the next year?")*	*** t= 1.88, p<0.05**	Adolescents not exposed to the anti-smoking ad had greater intentions to smoke in the future compared to adolescents who saw the anti-smoking ad.
	Thoughts about movie characters who smoke	*** t=2.70, p <0.01**	Adolescents who saw the anti-smoking ad had more negative thoughts about movie characters that smoke compared to those who did not see the anti-smoking ad.
	Opinion of smoking in the movie	Overall effect: ***X^2=82.95, df = 2, p<0.0001** Non-smokers: ***X^2=83.11, df = 3, p <0.0001** Smokers: X^2=2.52, df=2, p = 0.28	Overall, adolescents who saw the anti-smoking ad had a more negative opinion of smoking in the movie compared to those who did not see the anti-smoking ad. This was also significant for non-smoking adolescents but not for smokers.
	Intention to smoke	Overall effect: X^2=3.26, df = 2, p = 0.196 Non-smokers: X^2=0.97, df =2, p= 0.62 Smokers: ***X^2=9.03, df =2, p = 0.01**	There was no significance difference in intention to smoke between those who saw the ad compared to those who did not. When this was broken down by smoking status, smokers who saw the anti-smoking ad had reduced intentions to smoke in the future compared to those who did not see the ad.
	Awareness of smoking in movies *(Did you notice smoking in the movie?)*	Whole sample: ***OR 1.22** **(95% CI 1.02-1.47)**	Among individuals who saw the anti-smoking ad, the odds of being aware of smoking in the movies were 22% greater compared to individuals who did not see the ad.
	Approval of smoking in movies	Whole sample:***F=5.67, p=0.017** Main effect age: F=2.35 p=0.126 Main effect smoking status: * **F=42.67, p = 0.000**	Individuals who saw the anti-smoking ad had significantly lower levels of approval of smoking in the movies compared to individuals who did not see the ad; this was also significant regardless of an individual's smoking status (smoker, non- and ex-smoker).

Intervention	Outcomes	Effect	Summary
	Opinion towards smoking	Whole sample: ***F=5.37, p=0.021** Main effect age: * **F=95.36, p = 0.000** Main effect smoking status: ***F=1927.92, p = 0.000**	Individuals who saw the ad had a more negative opinion of smoking in general compared to those who did not see the ad. This was also significant across all ages (10-17, 18-90 years), and across smoking status (smokers and non-and ex-smokers).
	Intention to smoke	Whole sample: F=3.01, p = 0.083 Main effect age: ***F=105.60, p = 0.000** Main effect smoking status: ***F = 6313.32, p = 0.000**	Individuals who saw the ad did not differ significantly from individuals who did see the ad with respect to their intention to smoke. When this was broken down by age and smoking status, Individuals of all ages who saw the anti-smoking ad showed less intention to smoke in the future compared to individuals of all ages who did not see the ad. Both smokers and non- and ex-smokers who saw the ad also showed reduced intentions to smoke compared to those who did not see the ad.
	Urge to Smoke (smokers only) *("How much do you want to smoke a cigarette now?")*	Main effect: F=0.33, p = 0.564 Main effect movie smoking: *** F = 8.42, p = 0.004**	Smoking in movies prompts the urge to smoke among smokers, and the anti-smoking ad does not change this effect.
R-ratings for movies with smoking (1 longitudinal cohort study)	Increased risk of trying smoking for high vs. low movie smoking exposure	PG-13 films**:** ***OR 1.49 (95% CI 1.23-1.81)** *R-rated films: ***OR 1.33 (95% CI 1.13-1.57)** G/PG films: OR 0.49 (95% CI 0.22-1.09)	Among adolescents who had high movie smoking exposure in PG-13 and R-rated rated films, the odds of initiating smoking sooner were 49% and 33% greater than adolescents who had low movie smoking exposure in PG-13 and R-rated films. There was no difference in smoking initiation among high vs. low movie smoking exposure in G/PG rated films.
	G/PG versus R and PG-13	***Wald test 6.53 (2), p = 0.038**	The relation between movie smoking exposure and youth smoking is significantly higher in R and PG-13 rated films compared to G/PG rated films.
	G/PG versus PG-13	***Wald test -2.55 (1) p= 0.011**	The relation between movie smoking exposure and youth smoking is significantly higher in PG-13 rated films compared to G/PG rated films.
	G/PG versus R	***Wald test -2.37 (1) p = 0.018**	The relation between movie smoking exposure and youth smoking is significantly higher in R-rated films compared G/PG rated films.
	PG-13 versus R	Wald test 0.74 (1) p = 0.458	There is no significant difference between PG-13 and R-rated films in movie smoking exposure and youth smoking.

*** + BOLD = statistical significance**

Parental Control over R-rated Movie Exposure

Five studies from the 2012 US Surgeon General's Report provide strong evidence that parental restrictions on the viewing of R-rated movies and videos by children and adolescents is an effective intervention for reducing the risk of smoking.

These five studies found a clear dose-response relationship between viewing R-rated movies and smoking outcomes. Specifically, children and adolescents who had more restrictions on viewing R-rated movies or videos were less likely to smoke, less susceptible to smoking, or less likely to smoke and binge drink compared to children and adolescents who were able to watch R-rated movies occasionally or all the time.[1] Strengths and limitations of the studies are presented in Appendix D.

Anti-smoking Advertisements before Movies with Smoking

The 2012 US Surgeon General's Report and the 2010 study by Hanewinkel et al. provide moderate quality evidence that showing anti-smoking advertisements before movies depicting smoking is an effective strategy for reducing the impact smoking in movies can have on attitudes toward smoking and intentions to smoke among children, adolescents, and adults.[3, 8]

Two studies reported in the 2012 US Surgeon General's Report compared the attitudes toward smoking and the intention to smoke of adolescents who were exposed to an anti-smoking ad prior to a movie with those who were not exposed. One study (Pechman et al. 1999) found that adolescents who did not see the anti-smoking ad were more likely to be positively aroused by smoking scenes, have favourable beliefs about smokers, and enhanced intentions to smoke compared to those who saw the ad.[11]

Edwards et al. (2004) found that adolescent females who viewed an anti-smoking ad prior to a movie were more likely to say smoking was “not ok” in the movie and among smokers, showed significantly reduced intentions to smoke in the future compared to adolescents who did not see the ad.[12]

Hanewinkel, Isensee, Sargent, & Morgenstern (2010)

Hanewinkel et al. (2010) found that anti-smoking ads shown prior to movies resulted in greater awareness and lower levels of approval of smoking in movies, and a more negative opinion toward smoking in general. The study also found that among all ages (youth aged 10-17 years, adults aged 18-90 years), and across smoking status (smokers, and non- and ex-smokers), intentions to smoke in the future were reduced if individuals were exposed to the anti-smoking ad compared to individuals who were not exposed to the ad. There was no difference in urge to smoke between smokers who were exposed to the ad and those were not.[8] A summary of results is presented in Table 1, and strengths and limitations of the studies are presented in Appendix D.

R-ratings for Movies Depicting Smoking

Sargent and et al. (2012) concluded that assigning an R-rating to movies with smoking imagery could reduce smoking onset among children and adolescents.

The authors found that adolescents who had high movie smoking exposure in PG-13 and R-rated films were likely to initiate smoking sooner than adolescents who had low movie smoking exposure n PG-13 and R-rated films. For G/PG rated films, there was no difference in smoking initiation between high and low movie smoking exposure.

The authors also found that the relation between movie smoking exposure and youth smoking is significantly greater in PG-13 and R-rated films compared to G/PG rated films, but is no different between PG-13 and R-rated films. This means that movie smoking exposure in PG-13 and R-rated films pose similar risks to youth smoking.

The authors estimated that reducing the amount of smoking in PG-13 and R-rated movies would yield a 26% reduction in smoking onset among youth. Furthermore, by setting PG-13 movie smoking exposure alone to low exposure levels (which approximates the impact of an R-rating for movies with smoking), there would be an estimated 18% reduction in smoking onset among youth.[9] A summary of results is presented in Table 1, and strengths and limitations to the study are presented in Appendix D.

9 Applicability and Transferability

Region of Peel staff involved in tobacco-related activities met on September 20 2012 for a facilitated discussion. The purpose of the meeting was to discuss the feasibility and generalizability of this report.

Applicability

Political Acceptability or Leverage

- There is current provincial, national, and international support from various NGO's for policies to address smoking in movies, as well as media attention surrounding the issue; any strategies Peel Public Health develops or participates in would be timely and supported.

- Tobacco is a Region of Peel Term of Council priority; therefore council will be concerned with youth smoking rates and the issue of movie smoking exposure.
- Peel Public Health will need to examine the background of local MPP parties to see if there is any connection of the issue to a party platform.
- Other public health units and health practitioners will support policies; parents may also support them provided they are made aware of the issue and educated on its impact on youth smoking behaviours. Youth and movie and tobacco industries will likely be opposed to these policies as they may be perceived as taking away individual choice, hindering artistic expression and limiting access. This backlash may be a political deterrent for MPP's, and as a result may not support the issue.

Social Acceptability

- Parental restrictions for watching movies with R-ratings may be supported by parents and the general public because the intervention is based on individual choice and not a population-level policy. Parents may find it challenging to monitor their children's movie/video viewing behaviours unless smoking is explicitly stated as being in the movie.
- Anti-smoking ads prior to movies with smoking will be supported by the parents and likely youth; however the tobacco industry may oppose this. This intervention would likely be perceived as least intrusive to individual choice.
- Placing an R-rating on movies with smoking may be supported by parents and the general adult population, but likely not youth or the tobacco/movie industries. The movie industry may perceive the R-rating as reducing a large movie viewing market and thus revenue generated from movies that would otherwise be accessible to youth.

- It was recognized that Peel Public Health must be accountable to members of the public; with the research evidence presented demonstrating health benefits to Peel's youth it may be unethical not to act.

Available Essential Resources

- The Ontario Coalition for Smoke-Free Movies has some resources that are available for use. In addition, other health units may be participating in similar initiatives and thus networking and resource/information sharing will be available.
- For local implementation of parental restrictions for movies with R-ratings and/or placing anti-smoking ads prior to movies with smoking, education and social marketing will be imperative. Costs may include staff time, vendors for a campaign, and media buys.
- Advocating for an R-rating on movies with smoking imagery and creating a delegation to an MPP will require staff advocacy training as well as political acuity.
- Any strategy will require collaboration from internal and external partnerships including the Tobacco Transition Years Strategy, School Health Teams, Family Health, as well as other youth-and tobacco-focused organizations.

Organizational Expertise and Capacity

- Peel Public Health will need to rely on the expertise of the Office of Strategic Innovation and Policy for the delegation process as well as general advocacy work to ensure efforts are keeping with the BPSAA.

Transferability

Magnitude of Health Issue in Local Setting

- 15.5% of the population in Peel aged 12 years and older currently smokes, with the highest prevalence occurring among young adult males and females aged 19-29 years,

whom are likely affected by smoking in movies. Primary prevention is imperative to reduce the prevalence of smoking in Peel overall.

Magnitude of Reach and Cost Effectiveness of Interventions

- All interventions would reach their intended target of children and youth, as well as additional targets of parents and the general population; advocacy efforts will potentially have an expanded reach provincially.
- Parental controls for R-rated movies and anti-smoking ads prior to movies may require a five to ten year plan with reinforcers; R-ratings for movies with smoking imagery will require a long-term commitment.

Target Population Characteristics

- Members agreed that many studies in this review primarily focused on Caucasian youth, which may not be representative of the cultural diversity found in Peel.
- It is unknown if cultural movies have higher viewership in Peel (i.e. Bollywood), which may be subject to different film ratings and contain diverse types of smoking imagery. Despite this, Caucasian smokers in Peel are most prevalent and socio-demographic variables included in the studies may be similar to Peel.

10 Recommendations and Next Steps

Recommendations

- Peel Public Health should support policies or interventions that recommend parental restrictions on R-rated movies, as well as other movies with smoking imagery in order to reduce the exposure of children and adolescents to movie smoking.

- Peel Public Health should endorse the policy recommendation of the Ontario Coalition for Smoke-Free Movies that showing anti-smoking ads prior to movies with smoking is an effective intervention for preventing smoking among children and adolescents.
- Peel Public Health should endorse the policy recommendation of the Ontario Coalition for Smoke-Free Movies for placing an R-rating on movies with smoking imagery.

Next Steps

- Continue to collaborate and communicate with regional and provincial organizations working in area of smoking in movies.
- Keep abreast of emerging research on effective interventions to reduce the impact of movie smoking exposure on youth smoking behaviours.
- Develop a workplan outlining resources available, key partners, and specific activities required for each intervention recommended in this review.
- Work with the Office of Strategic Innovation and Policy to determine logistics of the delegation process, legalities involved with advocacy, and Peel's overall advocacy platform.

11 References

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11. Pechmann, C., & Shih, C.F. (1999). Smoking scenes in movies and antismoking advertisements before movies: Effects on youth. *Journal of Marketing, 3,* 1-13.

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Appendices

Appendix A: Conceptual Model

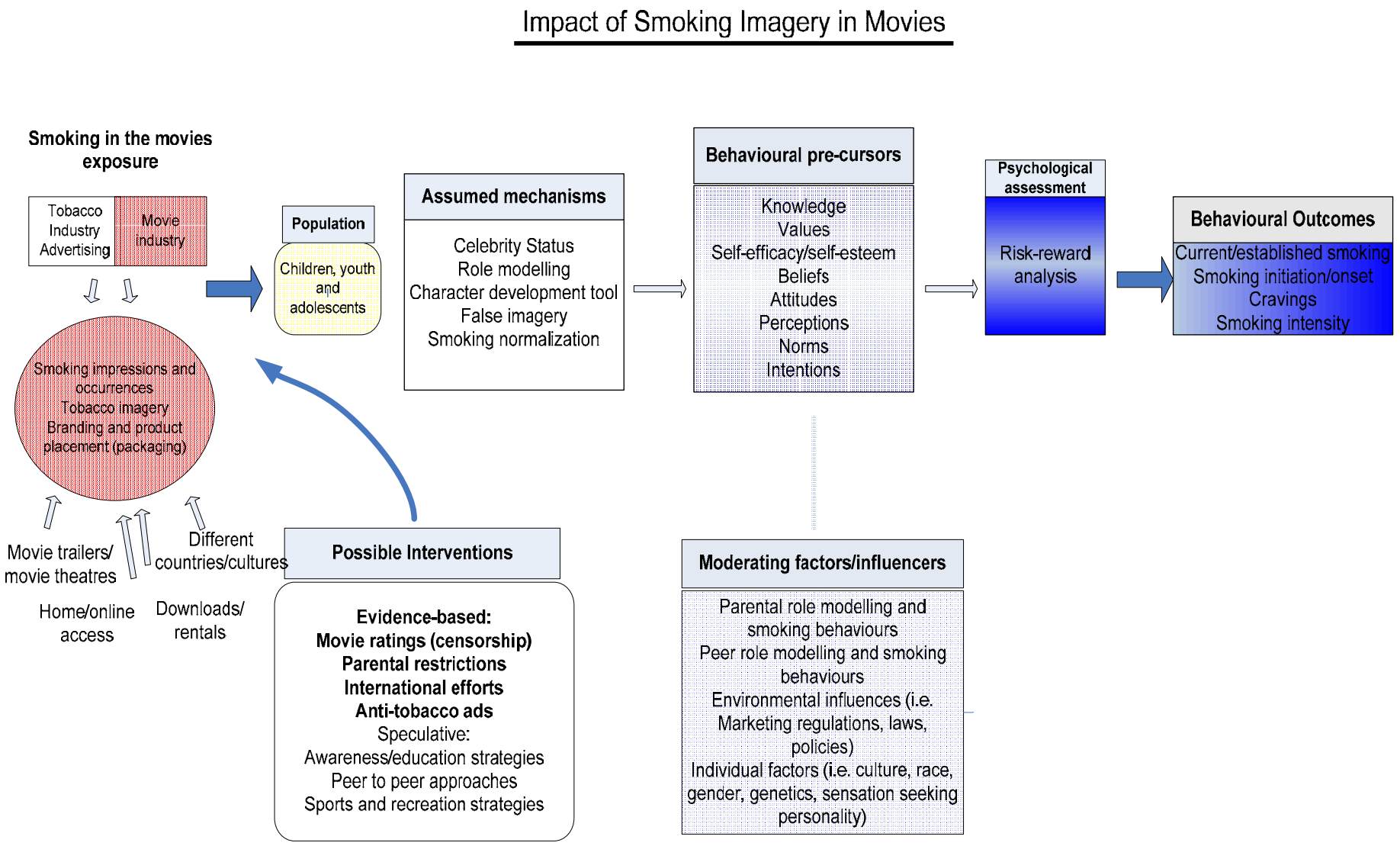
Appendix B: Search Strategy

Appendix C: Literature Search Flowchart

Appendix D: Data Extraction Tables

Appendix E: Applicability & Transferability Worksheet

APPENDIX A: CONCEPTUAL MODEL



APPENDIX B: SEARCH STRATEGY

PICO question

P (Population)	Youth
I (Intervention)	Any related to smoking in movies
C (Comparison)	No Intervention
O (Outcome)	Youth smoking behaviours

Search terms/ MeSH headings

	Population	Intervention or Exposure	Comparisons	Outcomes
Terms	Youth	Any related to smoking in movies	No intervention	Youth smoking behaviours
MeSH headings	Children Adolescents	Policy Education Advocacy Anti-smoking ads Censorship Restrictions Other		Smoking intentions Smoking initiation Smoking prevalence Smoking duration Smoking intensity

Search findings

Database/source	Date	Terms Used/limits	# of findings
Known sources – summaries and grey literature	July 26th	None	4
Health Evidence	August 13th	Smoking and movies	0
		Smoking and media – strong to moderate rating, last 10 years	20
		Smoking and youth – strong to moderate rating, last 10 years	6
EBM Reviews – Cochrane Database of Systematic Reviews, 2005 to July 2012; Global Health 1973 to July 2012; Ovid Medline 1946 to August 2 2012; Ovid Medline in-process and other non-indexed citations August 15 2012	August 15th was requested; unknown when specific search took place. Results provided August 16th.	1 exp motion pictures as topic/ (6487) 2 (cinema$ or film$ or movie$).ti,ab. (101278) 3 exp smoking/ (112313) 4 smok*.ti,ab. (208850) 5 tobacco.ti,ab. (72224) 6 1 or 2 (105061) 7 3 or 4 or 5 (273190) 8 6 and 7 (904)	13

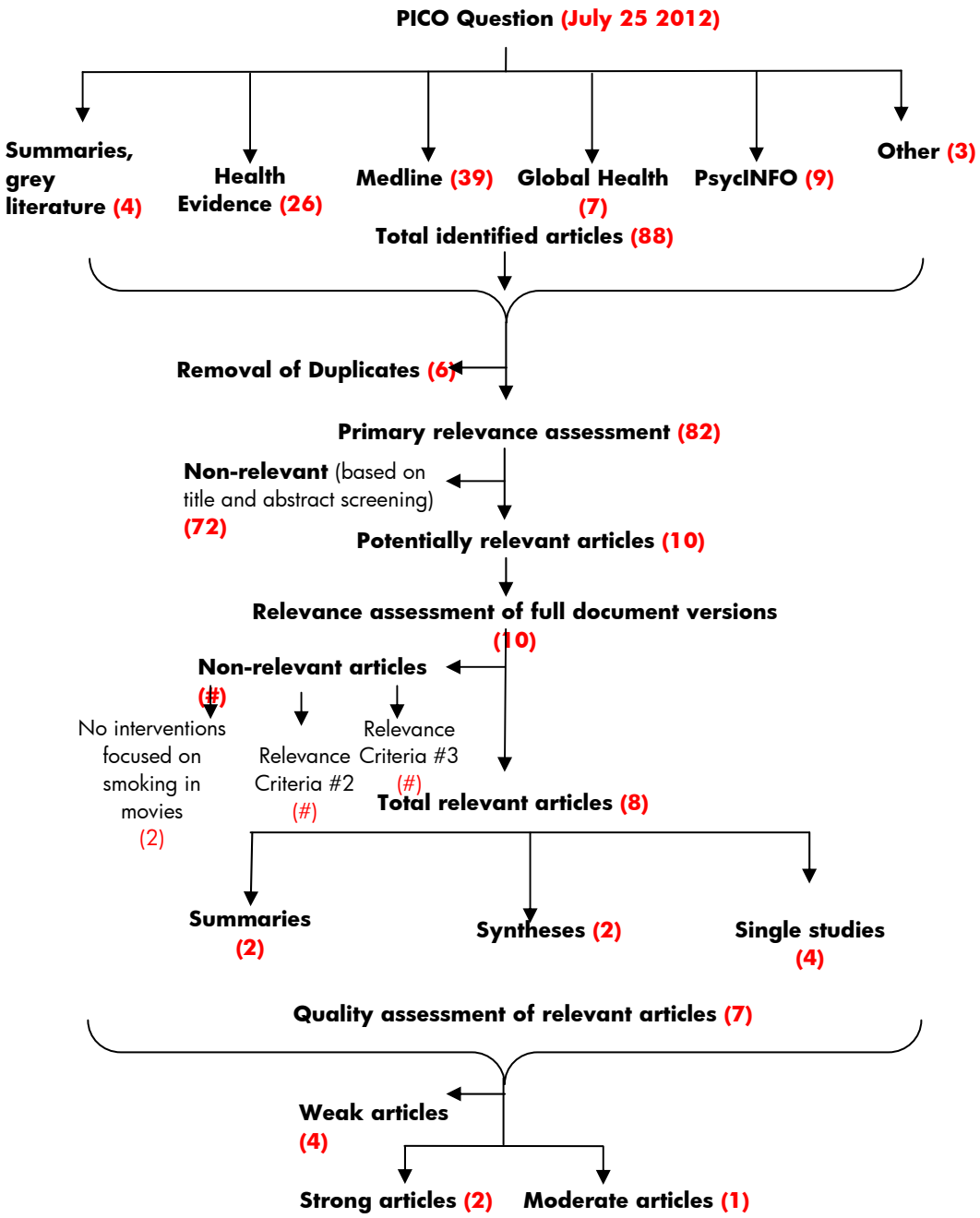
Database/source	Date	Terms Used/limits	# of findings
		9 meta-analysis.mp,pt. (71619) 10 systematic review.tw. (43175) 11 cochrane database of systematic reviews.jn. (16410) 12 9 or 10 or 11 (101835) 13 exp guideline/ (37197) 14 (practice guideline or guideline).pt. (22860) 15 13 or 14 (37197) 16 12 or 15 (138354) 17 (comment or letter or editorial or note or erratum or short survey or news or newspaper article or patient education handout or case report or historical article).pt. (1628474) 18 16 not 17 (132673) 19 8 and 18 (16) 20 remove duplicates from 19 (13) 21 intervention$.ti,ab. (535236) 22 8 and 21 (41) 23 remove duplicates from 22 (33)	
EBM Reviews - Cochrane Database of Systematic Reviews <2005 to July 2012>, Global Health <1973 to July 2012>, Ovid MEDLINE(R) <1946 to August Week 2 2012>, Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations <August 15, 2012>	August 15th was requested; unknown when specific search took place. Results provided August 16th.	1 exp motion pictures as topic/ (6487) 2 (cinema$ or film$ or movie$).ti,ab. (101278) 3 exp smoking/ (112313) 4 smok*.ti,ab.	33

Database/source	Date	Terms Used/limits	# of findings
		(208850) 5 tobacco.ti,ab. (72224) 6 1 or 2 (105061) 7 3 or 4 or 5 (273190) 8 6 and 7 (904) 9 meta-analysis.mp,pt. (71619) 10 systematic review.tw. (43175) 11 cochrane database of systematic reviews.jn. (16410) 12 9 or 10 or 11 (101835) 13 exp guideline/ (37197) 14 (practice guideline or guideline).pt. (22860) 15 13 or 14 (37197) 16 12 or 15 (138354) 17 (comment or letter or editorial or note or erratum or short survey or news or newspaper article or patient education handout or case report or historical article).pt. (1628474) 18 16 not 17 (132673) 19 8 and 18 (16) 20 remove duplicates from 19 (13) 21 intervention$.ti,ab. (535236) 22 8 and 21 (41) 23 remove duplicates from 22 (33)	
Database: EBM Reviews - Cochrane Database of	Requested August 15th; unknown when actual	1 exp motion pictures as topic/	9

Database/source	Date	Terms Used/limits	# of findings
Systematic Reviews <2005 to July 2012>, Global Health <1973 to July 2012>, Ovid MEDLINE(R) <1946 to August Week 3 2012>, Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations <August 24, 2012>, PsycINFO <2002 to August Week 3 2012>	search took place. Results provided August 27th.	(6489) 2 (cinema$ or film$ or movie$).ti,ab. (109070) 3 exp smoking/ (112449) 4 smok*.ti,ab. (230030) 5 tobacco.ti,ab. (81009) 6 1 or 2 (112853) 7 3 or 4 or 5 (297369) 8 6 and 7 (1072) 9 meta-analysis.mp,pt. (79922) 10 systematic review.tw. (49354) 11 cochrane database of systematic reviews.jn. (16568) 12 9 or 10 or 11 (115145) 13 exp guideline/ (37236) 14 (practice guideline or guideline).pt. (22899) 15 13 or 14 (37236) 16 12 or 15 (151702) 17 (comment or letter or editorial or note or erratum or short survey or news or newspaper article or patient education handout or case report or historical article).pt. (1630822) 18 16 not 17 (145998) 19 8 and 18 (17) 20 remove duplicates from 19 (13) 21 intervention$.ti,ab. (663517) 22 8 and 21 (50)	

Database/source	Date	Terms Used/limits	# of findings
		23 remove duplicates from 22 (37) 24 from 20 keep 1-13 (13) 25 from 20 keep 13 (1) 26 from 23 keep 30-37 (8) 27 25 or 26 (9) 28 remove duplicates from 27 (9)	
Expert	July 13th	N/A	1
Google Scholar	August 17th	Interventions AND smoking in the movies	21, 300
Hand-searching of Surgeon General Report Reference List	August 29th	N/A	0

APPENDIX C: SEARCH RESULTS FLOWCHART



Source: Health-evidence.ca. *Keeping Track of Search Results: A Flowchart.* [Retrieved January 13, 2010]

APPENDIX D: DATA EXTRACTION TABLES

GUIDELINE

Guideline Title	Preventing Tobacco Use Among Youth and Young Adults – A Report of the Surgeon General **Note: The evidence presented in this guideline is an update of the research found in the 2008 National Cancer Institute's Monograph #19 – The role of the Media in Promoting and Reducing Tobacco Use*						
Organization	U.S. 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						
Date	2012						
Country	United States						
AGREEII Rating	Scope and Purpose – 21 Stakeholder involvement – 12 Rigor of development – 37 Clarity of presentation – 15 Applicability – 4 Editorial independence – 5 Overall quality – 6/7						
Focus of guideline and relevant sections related to topic	Focus: Epidemiological data, determinants, and interventions of youth and young adult tobacco use Relevant section: Chapter 5 - The Tobacco Industry's Influences on the Use of Tobacco Among Youth; section on "images of smoking in movies and adolescent smoking"						
Intervention	**Parental controls on R-rated movies/videos**					**Anti-smoking ads prior to movies**	
# of studies	5 studies					2 studies * *details acquired from primary studies*	
Author(s)	Dalton MA., Ahrens MB., Sargent JD., Mott LA., Beach ML., Tickle JJ., Heatherton TF.	Dalton MA., Adachi-Mejia AM., Longacre MR., Titus-Ernstoff LT., Gibson JJ., Martin SK., Sargent JD., Beach ML.	Thompson EM., Gunther, AC.	Sargent JD., Beach ML., Dalton MA., Ernstoff LT., Gibson JJ., Tickle JJ., Heatherton TF.	Hanewinkel R., Morgenstern M., Tanski SE., Sargent JD.	Pechmann C., Shih CF.	Edwards, C.A., Harris, WC., Cook, DR., Bedford, KF., Zuo, Y.
Date	2002	2006	2007	2004	2008	1999	2004

Country	US	US	US	US	Germany	US	Australia
Design	Cross-sectional, survey	Cross-sectional, survey	Cross-sectional, survey	Longitudinal cohort, survey Baseline; 18 month follow-up	Longitudinal cohort, survey Baseline; 1 year follow-up	Experimental, Survey	Quasi-experimental, survey
Population	N= 4,544 White Ages 10-15	N= 2,606 Ages 9-12	N = 1,687 Grade 6, 7, 8	N= 2,596 White Ages 10-14 Never smokers	N=2,110 White Ages 10-15 Never smokers	N= 232 50% Hispanic or Asian Grade 9 (Ages 14-15) Non-smokers	N = 2,038 females Ages 12-17
Setting	School	School	School	School with telephone follow-up	School	Classroom	Movie cinema
Details of interventions Measure(s) of Exposure (E) and Outcome (O)	**E**: "How often do your parents let you watch movies or videos that are rated R? (never, once in awhile, sometimes, all the time) **O:** Prevalence of tried smoking	**E**: Parental restrictions on R-rated movie viewing combined with whether they co-viewed the movie **O:** Susceptibility to smoking	**E:** "How often do your parents let you watch movies or videos that are rated R? (1- never to 5 – all the time) **O:** a) Smoking susceptibility among never smokers b) Tried smoking prevalence	**E:** "How often do your parents allow you to watch movies or videos that are rated R? (Never, once in awhile, sometimes, all the time) **O**: Incidence of tried smoking	**E:** "How often do your parents allow you to watch movies that are rated for 16-year olds? (Never, once in awhile, sometimes, all the time) **O:** a) Tried smoking incidence b) Smoking and binge drinking	**E:** anti-smoking ad vs. control ad immediately before movie with smoking and movie with no smoking (2x2 design) **O:** arousal, beliefs about smokers, intention to smoke, opinion about characters	**E:** pre-film anti-smoking advertisement compared with no advertisement **O:** opinion of smoking in the movie, personal intentions to smoke
Results	Allowed to watch R-rated movies: Never (16%) - **RR 0.29 (95% CI 0.19 – 0.45)*** Once in awhile/	Permits watching, no parent – Reference Permits	**a)** R-rated movie restriction: Full – reference Partial – **OR 2.1 (95% CI 1.5-2.8)*** None –	Allowed to watch R-rated movies: Never (19%) – Reference Once in awhile	**a)** Never (41%) – Reference Once in awhile	Anti-smoking ad inoculated against pro-smoking influence of movie footage. Smoking scenes	Overall, an anti-smoking ad before movies with smoking impacts attitudes towards smoking and future intentions to smoke.

	sometimes (53%) **- RR 0.74 (95% CI 0.65-0.85)*** All the time (31%) – Reference. * Children who are never allowed to watch R-rated movies have a 71% decreased risk of having tried smoking; those who are allowed to watch R-rated movies once in awhile have a 26% decreased risk of having tried smoking compared to those who watch R-rated movies all the time.	watching, co-views- **RR 0.72 (95% CI 0.54-0.96)*** Prohibits child from watching – **RR 0.54 (95% CI 0.41-0.70) *** *Children who are allowed to watch R-rated movies via co-viewing are 28% less susceptible to smoking; children who are prohibited from watching R-rated movies are 46% less susceptible to smoking compared to children who are permitted to watch R-rated movies with no parent.	**OR 3.3 (95% CI 2.3 – 4.6)*** **b)** R-rated movie restriction: Full – reference Partial – **OR 1.5 (95% CI 1.0-2.8)*** None – **OR 2.5 (95% CI 1.7-3.7)*** In children who have partial restrictions to watching R-rated movies, the odds of smoking susceptibility are 2.1 times greater compared to those who have full restrictions to R-rated movies. In children who have no restrictions, the odds of smoking susceptibility are 3.3 times greater. In children who	(29%) – **RR 1.8 (95% CI 1.1-3.1)*** Sometimes/all the time (52%) – **RR 2.8 (95% CI 1.6-4.7)*** Children who are allowed to watch R-rated movies once in awhile are 1.8 times more likely to try smoking; those who are allowed to watch R-rated movies sometimes or all the time are 2.8 times more likely to try smoking compared to children who are never allowed to watch R-rated movies.	(28%) – RR 1.19 (95% CI 0.85-1.67) Sometimes (22%) **– RR 1.71 (95% CI 1.33-2.20)*** All the time (9%) **–RR 1.85 (95% CI 1.27-2.69)*** **b)** Never – reference Once in awhile – **RR 1.64 (95% CI 1.05-2.58**)* Sometimes – RR **2.30 (95% CI 1.53-3.45)*** All the time – RR **2.92 (95% CI 2.83-4.67)*** *Children who are allowed to watch R-rated once in awhile are not any more likely to try smoking than children who never watch R-	in the control ad condition generated positive arousal (t=2.19, p<0.05) but not in the intervention-ad condition. Those exposed to the control ad and smoking scenes had more favourable beliefs about a smokers stature (t=2.33, p<0.05); as well as more favourable beliefs of how smokers perceive their own stature (t=2.32, p <0.05) Those who saw the control ad had enhanced intentions to smoke (t=1.88, p <0.05) compared to those who saw the anti-smoking ad. Those who saw the anti-smoking ad had more negative	Those who saw anti-smoking ad were more likely to say smoking was not ok (negative opinion) in the movie compared to those who did not see the ad: X^2 = 82.95 (2), p<0.0001. Among non-smokers, those who saw the anti-smoking ad were more likely to have a negative opinion of smoking in the movie compared to those who did not see the ad. X^2 = 83.11 (3) p <0.0001. Among smokers, there was no significant difference in opinion of smoking in the movie among those in the intervention vs. control group.

			have partial restrictions on watching R-rated movies, the odds of having tried smoking are 1.5 times greater than children who have full restrictions to R-rated movie watching. In children with no restrictions, the odds of having tried smoking are 2.5 times greater.		rated movies; however they are 1.6 times more likely to smoke and binge drink compared to children who are never allowed to watch R-rated movies. Children who are sometimes allowed to watch R-rated movies are 1.7 times more likely to try smoking and 2.3 times more likely to smoke and binge drink compared to children who are never allowed to watch R-rated movies. Children who are always allowed to watch R-rated movies are 1.9 times more likely to try smoking and 2.9 times more likely to smoke and binge drink compared to children who	thoughts about lead characters who were smoking vs. non-smoking (t=2.70, p <0.01) compared to those who saw the control ad.	X^2 = 2.52 (2), p = 0.28. There was no overall significant effect of the anti-smoking ad on intention to smoke: X^2 = 3.26 (2) p = 0.196. When this was analyzed by smoking status, among viewers who were current smokers, those who saw anti-smoking ad showed significantly reduced intentions for future smoking X^2 = 9.03 (2) p = 0.01. There were no differences in intentions to smoke between non-smokers in the intervention and control group X^2 = 0.97 (2), p = 0.62

					are never allowed to watch R-rated movies.		
Strengths/limitations	Strengths: - Studies take into account covariates such as personality characteristics, parenting style, media and advertising influences, extracurricular activities, school attachment and function, parenting style/parental oversight of smoking behaviour, socio-demographics, and other social influences i.e. friend and family smoking - Large sample sizes Limitations: - Potential recall bias - Parental restrictions don't reduce exposure to smoking in movies rated G, PG, PG-13					Strengths: - Randomization can help control for known and unknown confounders (Pechmann study) - Pechmann study rooted in theory - Assessed naturalistic exposure (Edwards) - Edwards study had large sample size Limitations: - Unknown details on primary studies provided in guideline such as methodology, statistical outcomes; therefore primary studies were read. - Non-naturalistic setting (Pechmann) - Pechmann study did not publish standard deviations - Self-report creates bias - Generally feasible to assess only short-term responses to relatively brief media exposure - Edwards study had no randomization or baseline measures	
Recommendations	Parental restrictions on the viewing of R-rated movies/videos translate into lower risk of smoking among children.					Screening anti-smoking ads before movies depicting smoking is an effective strategy for reducing the pro-smoking persuasive effect of on-screen tobacco use by movie stars.	

SINGLE STUDIES

Title of study	Effect of an antismoking advertisement on cinema patrons' perception of smoking and intention to smoke: a quasi-experimental study
Authors	Hanewinkel, R., Isensee, B., Sargent, J.D., & Morgenstern, M.
Date	2010
Country	Germany
Quality Rating	Moderate
Design	Quasi-experimental (case-control) study; survey
Sample	N = 4005 Ages 10-90 n=2125 intervention; n=1840 control Age 10-17: intervention n = 654; control n=494 Age 18-90: intervention n = 1471; control n=1346 Female: intervention n=1326; control n=1008 Male: intervention n=811; control n=848
Setting	Multiplex cinema – Kiel Germany
Time period	4-week period from October 30 2008 to November 27 2008
Intervention	30-second advertisement accentuating long-term health consequences of smoking and promoting cessation before movies
Measures	Exposure measures: - Anti-smoking ad shown in movies in week 1 or 3; no ad for movies shown in weeks 2 or 4 Outcome measures: - Awareness of smoking in the movie - Approval of smoking - Intention to smoke - Urge to smoke (smokers only) Covariates: - Age - Gender - Smoking status
Results	<u>Awareness of smoking in movies:</u> Whole sample main effect intervention: **OR 1.22 (95% CI 1.02-1.47)*** *Individuals who saw the anti-smoking ad had 22% increased odds of being more aware of smoking in the movies compared to individuals who did not see the anti-smoking ad

	<u>Approval of smoking:</u> Whole sample: **F=5.67 (1, 1050), p=0.017*** Main effect age group: F=2.35 (1,1036), p=0.126 Main effect smoking status: **F=42.67 (1, 1041), p = 0.000*** *Those exposed to the anti-smoking ad had significantly lower levels of approval of smoking in the movies compared to those not exposed to the anti-smoking ad ($\overline{x}_{intervention}$ = 6.78; $\overline{x}_{control}$ = 7.24) *Both smokers and non- and ex-smokers who saw the anti-smoking ad had lower levels of approval of smoking in the movies compared to smokers and non- and ex-smokers who did not see the ad. ($\overline{x}_{intervention\ for\ smokers7}$ = 8.05; $\overline{x}_{control\ for\ smokers}$ = 8.65; $\overline{x}_{intervention\ for\ non\text{- and ex-smokers}}$ = 6.56; $\overline{x}_{control\ for\ non\text{- and ex-smokers}}$ = 6.85) <u>General opinion towards smoking</u> Whole sample: **F = 5.37 (1, 3946), p=0.021*** Main effect ages age group: **F = 95.36 (1, 3907), p = 0.000*** Main effect smoking status**: F = 1927.92 (1,3909) p = 0.000*** *Those exposed to the anti-smoking ad had a more negative opinion of smoking in general compared to those not exposed to anti-smoking ad ($\overline{x}_{intervention}$ = 1.80; $\overline{x}_{control}$ = 2.0) * Youth aged 10-17 and adults aged 18-90 exposed to the anti-smoking ad had a more negative opinion of smoking in general compared to youth and adults who were not exposed to the anti-smoking ad ($\overline{x}_{intervention\ for\ ages\ 10\text{-}17}$ = 1.22; $\overline{x}_{control\ for\ ages\ 10\text{-}17}$ = 1.24; $\overline{x}_{intervention\ for\ ages\ 18\text{-}90}$ = 2.04; $\overline{x}_{control\ for\ ages\ 18\text{-}90}$ = 2.28) *Both smokers and non-and ex-smokers exposed to the anti-smoking ad had more negative opinions towards smoking in general compared to smokers and non- and ex-smokers not exposed to the ad. ($\overline{x}_{intervention\ for\ smokers7}$ = 5.28; $\overline{x}_{control\ for\ smokers}$ = 5.60; $\overline{x}_{intervention\ for\ non\text{- and ex-smokers}}$ = 1.15; $\overline{x}_{control\ for\ non\text{- and ex-smokers}}$ = 1.24) <u>Intention to smoke in the future</u> Whole sample: F=3.01 (1, 3950) p = 0.083 Main effect age group: **F = 105.60 (1,3912**) **p = 0.000*** Main effect smoking status**: F = 6313.32 (1, 3918), p = 0.000*** * Youth aged 10-17 and adults aged 18-90 exposed to the anti-smoking ad had less intention to smoke compared to youth and adults who were not exposed to the anti-smoking ad. ($\overline{x}_{intervention\ for\ ages\ 10\text{-}17}$ = 1.17; $\overline{x}_{control\ for\ ages\ 10\text{-}17}$ = 1.20; $\overline{x}_{intervention\ for\ ages\ 18\text{-}90}$ = 2.41; $\overline{x}_{control\ for\ ages\ 18\text{-}90}$ = 2.64) *Smokers and non- and ex-smokers who were exposed to the anti-smoking ad had less intention to smoke compared to non- and ex-smokers not exposed to the ad ($\overline{x}_{intervention\ for\ smokers7}$ = 8.67; $\overline{x}_{control\ for\ smokers}$ = 8.83; $\overline{x}_{intervention\ for\ non\text{- and ex-smokers}}$ = 0.80; $\overline{x}_{control\ for\ non\text{- and ex-smokers}}$ = 0.87)

	<u>Urge to smoke (level of smoking addiction) – smokers only</u> Ad: F = 0.33 (1,589), p = 0.564 Movie smoking: **F=8.42 (1,589), p=0.004*** Interaction: F= 0.54 (1,589), p=0.461 *Movie smoking prompts the urge to smoke among smokers and the intervention did not alter this effect.
Strengths/limitations	Strengths: - Examines effect on all ages (adolescents and adults) - Large sample - Study conducted under naturalistic conditions - Intention-to-treat analysis - Considered certain covariates Limitations: - Design of study – no randomization - Low power in study (found significant interaction effects for some outcomes) - Low response rate (selection-bias) - Subjective measures - Confusing presentation of results - Ad focused on long-term health effects which are shown to be less effective amongst youth and only moderately effective amongst adults; focus on industry manipulation and de-normalization more effective. - Awareness of smoking alone not sufficient for attitudinal or behavioural change - No cultural differences considered
Recommendations	Placing an anti-smoking ad before movies can affect attitudes towards smoking and intentions to smoke.

Title of study	Influence of Motion Picture Rating on Adolescent Response to Movie Smoking.
Authors	Sargent, J.D., Tanski, S., Stoolmiller, M.
Date	2012
Country	US
Quality Rating	Strong
Design	Longitudinal cohort, survey
Sample	N= 6522 adolescents (baseline) 62% White Ages 10-14
Setting	Telephone
Time period	2003 Measured at baseline, 8 months, 16 months, 24 months
Intervention	N/A
Measures	Exposure: - High or low movie smoking exposure via pre-coded number of smoking occurrences Outcome: - Smoking initiation "have you ever tried smoking a cigarette, even just a puff" Covariates: - Age, gender, race, parent education, household income, school performance, involvement in extracurricular activities, weekly spending money, television watching (hours per day), personality characteristics (rebelliousness, sensation-seeking propensity), parent/sibling/peer smoking, cigarette availability at home, adolescent-reported parenting practices
Results	<u>Risk of smoking (adjusted)</u> G/PG-rated movie smoking exposure OR 0.49 (95% CI 0.22-1.09) **PG 13-rated movie smoking exposure OR 1.49 (95% CI 1.23-1.81)*** **R-rated movie smoking exposure OR 1.33 (95% CI 1.13-1.57)*** * For adolescents with high exposure of movie smoking in PG-13 rated films, the odds of initiating smoking sooner are 49% greater than those who had low exposure of movie smoking in PG-13 rated films. * For adolescents with high exposure of movie smoking in R-rated films, the odds of initiating smoking sooner are 33% greater than those who had low exposure of movie smoking in R-rated films. <u>Association between movie smoking exposure and rating</u> **G/PG vs. R and PG-13: Wald test 6.53 (2) p = 0.038*** **G/PG vs. PG-13: Wald test -2.55 (1) p=0.011*** **G/PG vs. R: Wald test -2.37 (1) p= 0.018*** PG-13 vs. R: Wald test 0.74 (1) p=0.458

	*The relation between move smoking exposure and youth smoking is not significantly different between PG-13 and R rated movies but the relation between movie smoking exposure and youth smoking in PG-13 and R-rated movies are both significantly different than that in G/PG-rated movies. <u>Attributable fraction estimate</u> If all PG-13 and R-rated movie smoking exposure was set to 5th percentile = 0.26 (95% CI 0.23-0.29). If all PG-13 movie smoking exposure was set to 5th percentile = 0.18 (95% CI 0.14-0.21) Authoritative parenting set to the highest level = 0.16 (95% CI 0.19-0.12) Sensation seeking set to the lowest level = 0.30 (95% CI 0.35-0.25). *There would be a 26% reduction in smoking in all PG-13 and R-rated movie smoking exposure was reduced; 18% if only PG-13 movie smoking exposure was reduced (approximates the probable impact of an R-rating for movies with smoking); 16% if authoritative parenting was high, and 30% if sensation seeking behaviours were low.
Strengths/limitations	Strengths: - Conducted attrition analysis (intention to treat) - Use of validated measures to assess movie smoking exposure Limitations: - Potential recall bias - Not powered to detect small effect - Cannot tell what contextual situations are most problematic
Recommendations	Reduce exposure to smoking imagery by placing an R-rating on films, which can reduce youth smoking by 1/5th Assist parents in restricting access to movies with smoking

DATA EXTRACTION TABLE – EXCLUDED STUDIES

General information about study (author, date, country, type of study, quality rating)	Rationale for exclusion
Smoke-Free movies: from evidence to action World health Organization 2011 Guideline: AGREEII – Overall score: Domain 1: scope and purpose – 20 Domain 2: stakeholder involvement – 17 Domain 3: rigour of development – 21 Domain 4: Clarity of presentation – 21 Domain 5 – applicability – 15 Domain 6 – editorial independence – 6	- no search strategy - no criteria mentioned for selecting evidence - no strengths or limitations of body of evidence clearly described - poor methods for formulating recommendations - no procedure mentioned for updating guideline - no facilitators/barriers to application described - no monitoring or auditing criteria mentioned - no mention of competing interests amongst guideline development group
Smoking in movies increases adolescent smoking: A review Charlesworth, A., Glantz,C. 2005 US Review: Health Evidence Validity Tool: 3/10	- no inclusion criteria - unknown number of years for search criteria - no assessment of methodological quality of primary studies - lack of transparency for results - unknown combination of findings across studies
Smoking in movies: Impact on adolescent smoking Sargent, J.D. 2005 US Review: Health Evidence Validity Tool: 1/10	- no inclusion criteria - unknown search strategy - unknown number of years for search criteria - no level of evidence described - no assessment of methodological quality of primary studies - lack of transparency for results - unknown combination of findings across studies
Out of the smokescreen: does an anti-smoking advertisement affect young women's perception of smoking in movies and their intention to smoke? Edwards, C.A., Harris, W.C., Cook, D.R., Bedford, K.F., Zuo, Y. 2004 Australia	- not appraised as is included and assessed in Surgeon General Report
Out of the smokescreen II: will an advertisement targeting the tobacco industry affect young people's perception of smoking in movies and their intention to smoke? Edwards, C.A., Oakes, W., Bull, D. 2007 Australia Quasi-experimental: poor rating	- unknown if cases and control were selected in an acceptable way - unknown if exposure was accurately measured to minimize bias - unknown if authors took into account potential confounding variables

APPENDIX E: APPLICABILITY AND TRANSFERABILITY

Factors	Questions	Notes
Applicability (feasibility)		
Political acceptability or leverage	• Will the intervention be allowed or supported in current political climate? • What will the public relations impact be for local government? • Will this program enhance the stature of the organization? o *For example, are there reasons to do the program that relate to increasing the profile and/or creative a positive image of public health?* • Will the public and target groups accept and support the intervention in its current format?	• World wide movement on rating system – California in particular • Region of Peel term of council priority • NGO's support – OTN, OCAT, OCSFM, PFASFC • Movie industry opposition • Awareness will be supported but education needs to correspond for maximum effect • Great opportunity for Peel health to support initiative/advocate for youth • Target group may not support if they do not understand what we are doing; may see this as taking away their right to see a movie and parents may not understand the harm of smoking imagery • Advocacy position – minority liberal government • No a specific government priority • Need to see if there's any connection to a party platform of any parties • Need background on local MPP parties and platforms • Provincial advocacy movement offers local support. • In the news at present – locally, provincially, internationally • PR – ok if messages are kept simple • Advocacy work at local level

		• Knowledge/awareness of SFM by parents/general public • Enhance by showing our advocacy is based on evidence • Demonstrates role of PH in the issue • Yes – will be supported by PH groups • Must ensure local government has info as may be pushback from film industry. • Action: to support R rating for movies with smoking will be contentious; this would limit the audience that could legally see films; may be an outcry that policy is interfering with artistic expression; public may not support this change, particularly youth are most frequent movie goers • This may or may not impact calls to councilors depending on nature/intensity of advocacy efforts by staff/partners • Issue of encouraging parents to restrict R rated movie viewing is more realistic but may not be very effective if smoking continues to be viewed in PG13/G movies • Possibly warning and de-normalization message, not r rating though • Supportive of initiative • Hard to say if program will enhance stature of organization • Public yes. Target group will resist (FRB). • Intervention will be supported in climate, will create positive public relations for government, will enhance stature of organization, and will be accepted and supported.

Social acceptability	• Will the target population find the intervention socially acceptable? Is it ethical? o *Consider how the program would be perceived by the population.* o *Consider the language and tone of the key messages.* o *Consider any assumptions you might have made about the population. Are they supported by the literature?* o *Consider the impact of your program and key messages on non-target groups.*	• US Surgeon General's report – smoking in movies causal • Parents likely to support movement • Recommendations supported by literature • Reducing youth exposure to movie smoking has shown an impact on initiation of tobacco use and the target population has addressed their own concerns for this issue • If recommendations are transferred into action it would need to be suited for youth and young adults in terms of how its implemented • For peel health to support SFM demonstrates to youth and young adults we want to prevent smoking initiation • Tobacco is a term of council priority • Movie industry distributors may resist R ratings for movies with tobacco exposures • Parents likely to support and appreciate • NGO's and other institutions may support i.e. heart and stroke, cancer, lung association, school board • Is it ethical not to act?? • Yes – socially acceptable • Issue may be in communicating the relationship of SFM and tobacco use so intervention is not seen as useless • Action: r rating for smoking movies may be most effective intervention by difficult to sell with OFRB; youth/young adults are largest audience; this would limit access to films likely angering them – film makers would be outraged

		• Action: advocating to parents not to expose children to R rated movies – likely no opposition but impact would be limited as children will continue to be exposed to images in G and PG films • Target population may or may not find intervention socially acceptable – depends – may be a backlash.
Available essential resources (personnel and financial)	• Who/what is available/essential for the local implementation? • Are they adequately trained? If not, is training available and affordable? • What is needed to tailor the intervention locally? • What are the full costs? o *Consider: in-kind staffing, supplies, systems, space requirements for staff, training, and technology/administrative supports.* • Are the incremental health benefits worth the costs of the intervention? o *Consider any available cost-benefit analyses that could help gauge the health benefits of the intervention.* o *Consider the cost of the program relative to the number of people that benefit/receive the intervention.*	• SFM Coalition has resources developed • TCAN's and other health units particularly in Toronto • Data from health status report • Public health staff, Mpp's, other Public health units and regions. • Awareness will need key partners and a campaign tailored to educate youth and the public • More needs to be done before deciding to implement an intervention/program. • Strategically aligned with transitions workgroup priorities – prevention focus • Advocacy takes less than resources than other choices • R-rating not in our control – rating system is provincially mandated • Advocacy with parents clearly PPH role for both nurturing the next generation and tobacco strategies • Costs are staff time for advocacy and potentially social marketing for parents components • Resources/support from province for SFM • Need advocacy training

		• Ensure follow appropriate procedures • Do we have any evidence of incremental health benefits i.e. decrease in tobacco use by youth by X%? • Is advocacy therefore resources costs are limited and controlled • What is the intervention? Advocacy for r rating on movies containing smoking imagery – creation of a campaign educating parents about risks; anti smoking ads priority o movies, all – parents can be partners in advocacy efforts to influence OFRB • Campaigns are costly – unsure about resource availability, staff resources can be assigned if its deemed a priority • Uncertain if training is required • Message should be specific to Peel/Ontario population • Don't know the cost • Health benefits depend on rate of prevention i.e. less than 2% of children and youth under 18 smoke
Organizational expertise and capacity	• Is the intervention to be offered in line with Peel Public Health's 10-Year Strategic Plan (i.e., 2009-2019, 'Staying Ahead of the Curve')? • Does the intervention conform to existing legislation or regulations (either local or provincial)? • Does the intervention overlap with existing programs or is it symbiotic (i.e., both internally and externally)? • Does the intervention lend itself to cross-departmental/divisional collaboration? • Any organizational barriers/structural issues or approval processes to be addressed?	• Expertise of the Office of Strategic innovation, policy and planning • In order to determine effectiveness of an intervention, more research is generally required to see what has been done and what could be done; this does support strategic plan ; being supportive of policies and interventions that are effective will help this process. • Direct alignment with Living tobacco free and Tof C priority

	• Is the organization motivated (learning organization)? o *Consider organizational capacity/readiness and internal supports for staff learning.*	• Advocacy portion first with provincial film rating system • Fits well with potential tobacco and parenting programming however would need to be developed • CDIP/Family Health partnership • Staff development and change management for building advocacy position required – workforce development strategy • Yes – living tobacco free • Advocacy re. movie ratings, SFM coalition, can affect all 3 pillars • Must work through process with corporate office (David Arbuckle's group) • May be opportunity for collaboration with other teams i.e. school team or divisions i.e. family health • Currently provincial coalition that is actively using a variety of methods to raise awareness of the issue • Opportunity to utilize this as educating body and leverage province wide expertise in this area. • Youth prevention aligns with organization plan • OFRB deals with ratings/messaging before movies • Program could align with other advocacy programs • Organization is motivated

Transferability (generalizability)		
Magnitude of health issue in local setting	• What is the baseline prevalence of the health issue locally? • What is the difference in prevalence of the health issue (risk status) between study and local settings? • *Consider the Comprehensive Health Status Report, and related epidemiological reports.*	• 60% of smoking impressions occur in PG rated films; advocating changing the rating system to include an R-rating and advocating for parental control should limit smoking impressions on target population • Since 15.5% of people aged 12 and older are smokers in region it is important to look at • Adolescents between 12-17 are most frequent movie goers and part of target population starting smoking, increases as they age • Studies recognize this and see smoking in movies as a way to attract this population to smoking • 167 600 smokers in Peel • High rates among males 20-50, likely affected by smoking in movies • Transferability from US and Europe studies probably fairly good • Youth and young adults are priority population – this would impact prevention and cessation. • Less than 2% of youth smoke • Negligible difference
Magnitude of the “reach” and cost effectiveness of the intervention above	• Will the intervention appropriately reach the priority population(s)? • What will be the coverage of the priority population(s)?	• Advocacy to target parents to control viewing of R rated movies • Recommendation to support interventions would only reach target population if an intervention is available for us to support • Priority populations – film rating board

		long term commitment, parental control 5-10 year plan with reinforcers • Advocacy with ratings • Knowledge with parents re. ratings and smoking relationship • Reach could potentially be great if advocacy efforts are successful • Will reach priority populations
Target population characteristics	• Are they comparable to the study population? • Will any difference in characteristics (e.g., ethnicity, socio-demographic variables, number of persons affected) impact intervention effectiveness locally? • *Consider if there are any important differences between the studies and the population in Peel (i.e., consider demographic, behavioural and other contextual factors).*	• Yes – youth • Parents are also key in relating parental control, education, awareness. • Diversity in Peel may help as strong family orientation in south Asian community • Interesting to review S. Asian movies for smoking • Not sure about Caribbean families • White smokers in peel more prevalent • Assume all movies in theatres rated by same body • How are ratings applied to movies on demand? • This would impact all populations and not just specified group • Yes, peel is more ethnically diverse and has a lower prevalence of smokers
Proposed Direction (after considering the above factors): • Continue with recommendation of more research on screening anti-smoking ads prior to movies • Go ahead with support of policies or interventions that recommend more strict ratings of movies that have smoking imagery in them • Start step by step process of working up to strong intervention in future • Develop advocacy position after assessing resources available – needs to fit within total tobacco resources • Rapid review an asset to development of a position		

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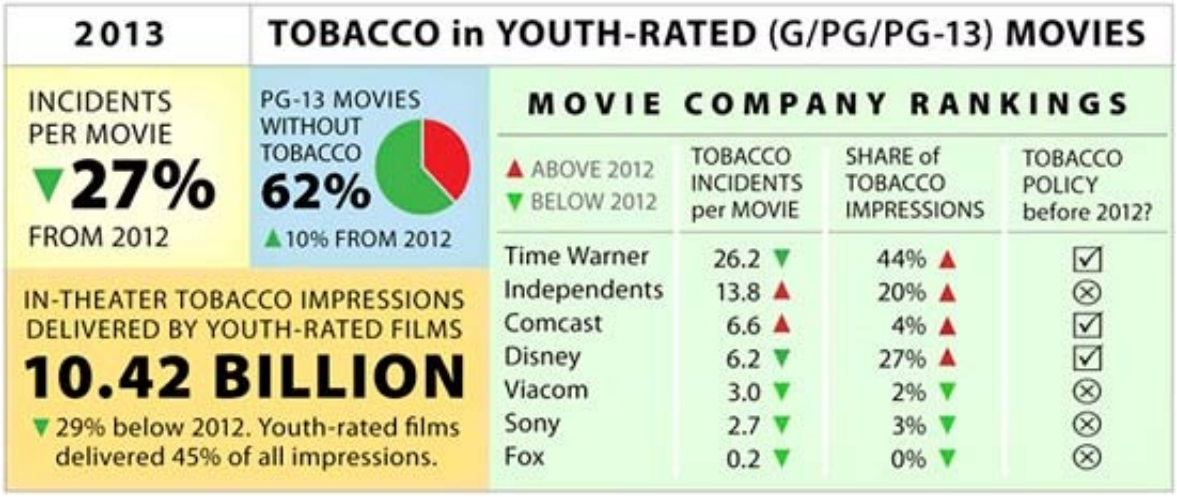
Smoking in the Movies



Text description of this infographic (/tobacco/data_statistics/fact_sheets/youth_data/movies/longdesc/index.html#youth-rated) is available on a separate page.

- A “tobacco incident” is one occurrence of smoking or other tobacco use in a movie.
- “Incidents” are a measure of the number of occurrences of smoking or other tobacco use in a movie.
- A “tobacco impression” is one person seeing one incident.

- "Impressions" are a measure of total audience exposure.
- This report's movie sample comprises all movies that ranked among the top 10 in ticket sales ("top-grossing movies") in any week of their first-run release to U.S. theaters.

Overview

- Watching movies that include smoking causes young people to start smoking.[1]
- The number of smokefree youth-rated movies (G, PG, PG-13) increased from 2002 to 2013. But in movies that showed any smoking, the average number of tobacco incidents per movie also increased.[2]
- The Motion Picture Association of America (MPAA), the studios' organization that assigns ratings, provides a "smoking label" along with the regular rating for movies that contain smoking. However, about 9 of every 10 (88%) youth-rated, top-grossing movies with smoking do not contain an MPAA "smoking label."[2]
- The 2012 Surgeon General's Report (Preventing Tobacco Use Among Youth and Young Adults) concluded that an industrywide standard to rate movies with tobacco incidents R could result in reductions in youth smoking.[1]
- Giving an R rating to future movies with smoking would be expected to reduce the number of teen smokers by nearly 1 in 5 (18%) and prevent one million deaths from smoking among children alive today.[3]

Background

- In 2012, the Surgeon General concluded that exposure to onscreen smoking in movies causes young people to start smoking.[1] Because of this exposure to smoking in movies:
  - 6.4 million children alive today will become smokers, and 2 million of these children will die prematurely from diseases caused by smoking.[2]
- Between 2002 and 2013:[2]
  - Almost half (45%) of top-grossing movies in the United States were rated PG-13.
  - 6 of every 10 PG-13 movies (61%) showed smoking or other tobacco use.

Movie Ratings[4]

G (General Audience): All ages admitted

PG (Parental Guidance Suggested): Some material may not be suitable for children

PG-13 (Parents Strongly Cautioned): Some material may be inappropriate for children under 13

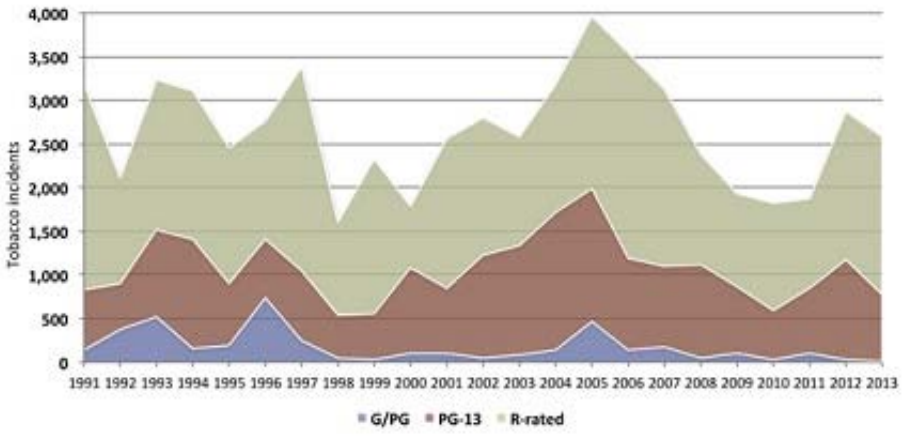
R (Restricted): Under 17 requires accompanying parent or adult guardian

NC-17 (Adults Only): No one 17 and under admitted

Additional 2013 Findings[2]

- The percentage of PG-13 movies with tobacco incidents continued to decrease, with more than 6 of every 10 (62%) being tobacco-free in 2013, compared with 2 of every 10 (20%) in 2002.
- In 2013, the number of tobacco incidents in the average PG-13 movie (34 incidents) was almost as high as the number in the average R-rated movie with tobacco (35 incidents).
- Movies rated G and PG included fewer than 10 total tobacco incidents in 2013, the least observed since 2002.

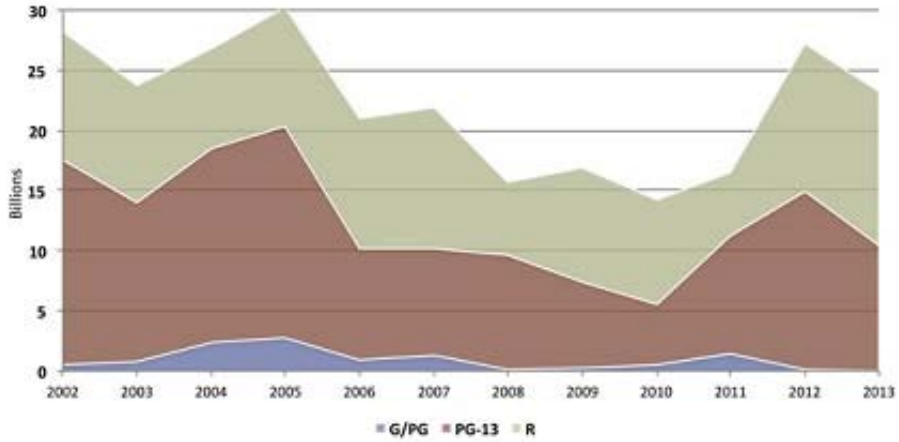
Figure 1. Tobacco Incidents in Top-Grossing Movies by Motion Picture Association of America (MPAA) Rating, 1991–2013[2]



Text description of this graph (/tobacco/data_statistics/fact_sheets/youth_data/movies/longdesc/index.html#top-grossing) is available on a separate page.

- The number of tobacco incidents in movies varies by movie company. From 2010 to 2013:[2]
  - Tobacco incidents increased in youth-rated movies from Comcast, Disney, and Time Warner and among independent movie companies.
  - Tobacco incidents decreased in movies from Fox, Sony, and Viacom (Paramount).

Figure 2. In-Theater Tobacco Impressions by Motion Picture Association of America (MPAA) Rating, 2002–2013[2]



Text description of this graph (/tobacco/data_statistics/fact_sheets/youth_data/movies/longdesc/index.html#in-theater) is available on a separate page.

Conclusions

- The data show that individual movie company policies alone have not been shown to be efficient at minimizing smoking in movies. Studios with policies have had more tobacco incidents in 2013 than 2010.[2]
- Several strategies have been identified to reduce youth exposure to onscreen tobacco incidents.[1,2]
- Reducing the number of tobacco incidents in movies will further protect young people from starting to use tobacco.[2]
- The 2012 Surgeon General's Report concluded that an industrywide standard to rate movies with tobacco incidents R could result in reductions in youth smoking.[1]
- The 2014 Surgeon General's Report (The Health Consequences of Smoking—50 Years of Progress) concluded that youth rates of tobacco use would be reduced by 18% if tobacco incidents and impressions in PG-13 films were eliminated by actions like having all future movies with tobacco incidents receive an R rating.[1]
- States and local jurisdictions could also work towards reducing tobacco incidents in movies.[2]

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Smoking in Top-Grossing Movies — United States, 1991–2009

Exposure to onscreen smoking in movies increases the probability that youths will start smoking. Youths who are heavily exposed to onscreen smoking are approximately two to three times more likely to begin smoking than youths who are lightly exposed (*1*); a similar, but smaller effect exists for young adults (*2*). To monitor the extent to which tobacco use is shown in popular movies, Thumbs Up! Thumbs Down! (TUTD), a project of Breathe California of Sacramento-Emigrant Trails, counted the occurrences of tobacco use (termed "incidents") shown in U.S. top-grossing movies during 1991–2009. This report summarizes the results of that study, which found that the number of tobacco incidents depicted in the movies during this period peaked in 2005 and then progressively declined. Top-grossing movies released in 2009 contained 49% of the number of onscreen smoking incidents as observed in 2005 (1,935 incidents in 2009 versus 3,967 incidents in 2005). Further reduction of tobacco use depicted in popular movies could lead to less initiation of smoking among adolescents. Effective methods to reduce the potential harmful influence of onscreen tobacco use should be implemented.

To conduct this analysis, TUTD counted the number of incidents of tobacco use in the 50 top-grossing movies each year during 1991–2001 and in all movies that were among the 10 top-grossing movies in any calendar week during 2002–2009. U.S. movies that rank in the top 10 for at least 1 week account for 83% of all movies released in U.S. theaters each year and 98% of all ticket sales (*3*). For each time frame, teams of trained observers reviewed each movie and counted tobacco incidents (*3*).* An incident was defined as the use or implied use of a tobacco product by an actor. A new incident occurred each time 1) a tobacco product went off screen and then back on screen, 2) a different actor was shown with a tobacco product, or 3) a scene changed, and the new scene contained the use or implied off-screen use of a tobacco product. The number of in-theater impressions (one person seeing one tobacco incident one time) delivered in theatrical release was obtained by multiplying the number of incidents in each movie by the total number of tickets sold nationwide to the movie. The number of movies without any depiction of tobacco use also was counted.

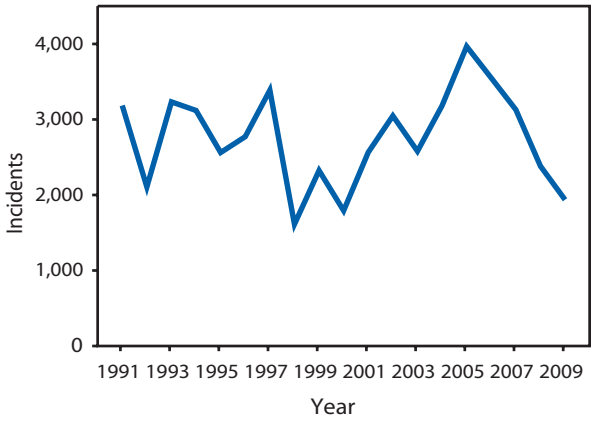
Cumulatively, more movies qualify for the weekly top 10 category in a given year than for the annual top 50 category. Estimated counts of tobacco incidents for 1991–2001 were adjusted for the larger sampling frame used later, based on prior research on movie grosses and tobacco incidents for 2002–2007 (*3*). Approximately one third (34.5%) of 2002–2007 weekly top 10 movies also were included in the annual list of top 50 movies. Weekly top 10 movies that were not in the annual top 50 category had, on average, slightly fewer tobacco incidents than movies that were in the top 50 (21.5 incidents versus 23.0 incidents). To adjust for the difference in study methodology across the two periods so that results would be comparable, incident counts for 1991–2001 were inflated by a factor of 2.7 (calculated as [1/0.345] × [21.5/23.0]). The count of movies lacking tobacco depictions was inflated by 3.0 to maintain whole numbers.

The total number of incidents in the entire sample of top-grossing U.S. movies (Figure 1) ranged from 2,106 to 3,386 per year from 1991 to 1997, decreased to 1,612 in 1998, and then more than doubled to peak at 3,967 in 2005. From 2005 to 2009, the number of incidents dropped steadily, to 1,935 incidents in 2009. More than 99% of tobacco incidents related to smoking (versus smokeless tobacco use).

During 1991–2001, total in-theater impressions varied between 30 billion and 60 billion per year, then generally declined to a low of approximately 17 billion impressions in 2009 (Figure 2). The percentage of all top-grossing movies that did not show tobacco use exceeded 50% (51%; 74/145) for the first time in 2009 (Figure 3); similarly, the percentage of top-grossing, youth-rated movies (G/PG/PG-13) that did not show tobacco use generally has increased since 2003, reaching an all-time high of 61% (58/95) in 2009. Nonetheless, in 2009, more than half (54%; 32/59) of PG-13 movies contained incidents of tobacco use, down from 65% (133/205) during 2006–2008 and 80% (107/133) during 2002–2003.

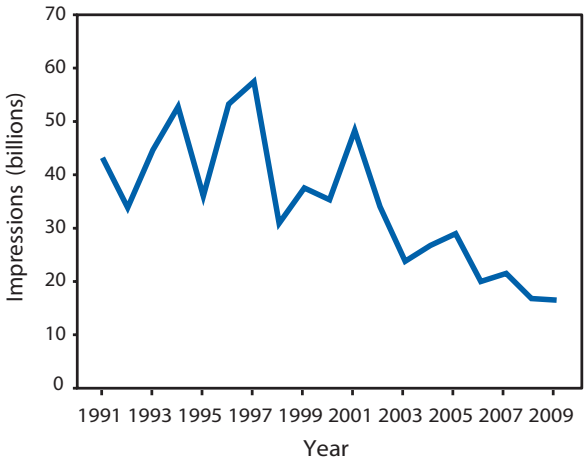
* The movie-by-movie results and an archive of all movies analyzed are available at http://www.scenesmoking.org.

FIGURE 1. Number of tobacco incidents* in top-grossing movies — United States, 1991–2009



* An incident was defined as the use or implied use of a tobacco product by an actor. A new incident occurred each time 1) a tobacco product went off screen and then back on screen, 2) a different actor was shown with a tobacco product, or 3) a scene changed, and the new scene contained the use or implied use of a tobacco product.

FIGURE 2. Number of in-theater tobacco impressions* delivered by top-grossing movies — United States, 1991–2009

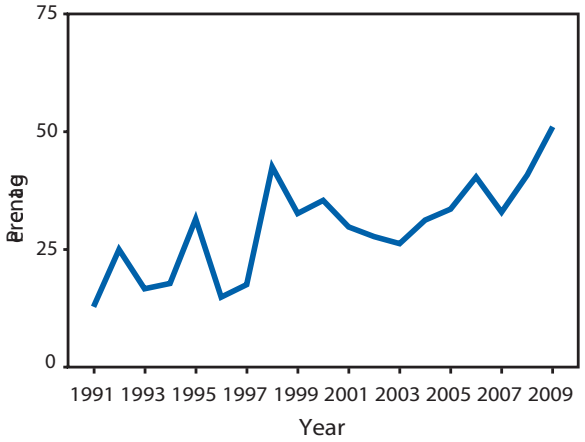


* An impression was defined as one person seeing one tobacco incident one time. The number was obtained by multiplying the number of incidents in each movie by the total number of tickets sold nationwide to the movie.

Reported by

SA Glantz, PhD, Univ of California San Francisco, K Titus, MBA, S Mitchell, Breathe California of Sacramento-Emigrant Trails, J Polansky, Onbeyond LLC, Fairfax, California. RB Kaufmann, PhD, Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

FIGURE 3. Percentage of top-grossing movies with no depiction of tobacco use — United States, 1991–2009



Editorial Note

The results of this analysis indicate that the number of tobacco incidents peaked in 2005, then declined by approximately half through 2009, representing the first time a decline of that duration and magnitude has been observed. However, nearly half of popular movies still contained tobacco imagery in 2009, including 54% of those rated PG-13, and the number of incidents remained higher in 2009 than in 1998. This analysis shows that the number of tobacco incidents increased steadily after the 1998 Master Settlement Agreement (MSA)[†] between the state attorneys general and the major cigarette companies, in which the companies agreed to end brand placement.

In 2001, the Smoke Free Movies campaign began to publicly link the tobacco content of movies to specific movie studios and their parent companies.[§] Subsequently, several state and local tobacco control programs began efforts to raise awareness of the public health importance of reducing the amount of onscreen smoking. These efforts included activities such as engaging youth empowerment programs on the issue, media campaigns, and community outreach. Beginning in 2002, many state attorneys general also increased advocacy directed at the movie industry, and in May 2004 and May 2007, Congress held hearings

[†] Master Settlement Agreement. Section III(e): prohibition on payments related to tobacco products and media. Full text available at http://www.naag.org/backpages/naag/tobacco/msa.

[§] Additional information is available at www.smokefreemovies.ucsf.edu.

What is already known on this topic?

Exposure to onscreen smoking in movies promotes adolescent and young adult smoking, and greater levels of exposure are associated with increased probability of smoking.

What is added by this report?

After a peak in 2005, the amount of onscreen smoking depicted in U.S. movies declined 51%, from 3,967 to 1,935 in 2009. However, nearly half of popular movies still contained tobacco imagery in 2009, including 54% of those rated PG-13, and the number of incidents was higher in 2009 than the 1,612 in 1998.

What are the implications for public health practice?

Effective methods to reduce the potential harmful influence of onscreen tobacco use should be implemented. Such policies could include having a mature content (R) rating for movies with smoking, requiring strong antitobacco ads preceding movies that depict smoking, not allowing tobacco brand displays in movies, and requiring producers of movies depicting tobacco use to certify that no person or company associated with the production received any consideration for that depiction.

on smoking in the movies.[¶] In 2007, demands from state attorneys general led the Motion Picture Association of America (MPAA), which controls the movie rating system, to seek recommendations from the Harvard School of Public Health and to pledge their implementation. Harvard recommended that MPAA "take substantive and effective action to eliminate the depiction of smoking from movies accessible to children and youths" (*4*). MPAA's response was to attach smoking descriptors to the ratings for a fraction (12%) of nationally-released, youth-rated movies with smoking, beginning in May 2008 (*5*). Since 2007, several major studios adopted internal protocols for monitoring smoking content and promulgated corporate policies to discourage tobacco in their youth-rated movies. In 2009, Paramount (Viacom) became the first company whose youth-rated movies for the year contained no tobacco use incidents. In addition to other factors, these studio protocols might account for the some of the recent reduction in smoking incidents.

A meta-analysis of four studies estimated that 44% (95% confidence interval [CI] = 0.34–0.58) of the likelihood of youth trying smoking could be attributable to viewing smoking in the movies (*6*). Given the dose-response relationship between exposure to onscreen smoking and youth and young adult smoking, reductions in youth exposure to onscreen tobacco use since 2005 would be expected to have a beneficial effect on reducing smoking initiation (*7*). The national Youth Risk Behavior Survey[**] found that the national prevalence of ever having tried a cigarette declined significantly among high school students from 54.3% (95% CI: 51.2%–57.3%) in 2005 to 46.3% (95% CI: 43.7%–48.9%) in 2009. The reduction in smoking in movies might have been a contributing factor to this decline.

The findings in this report are subject to at least five limitations. First, the sample did not include all movies. However, an analysis of movies accounting for 96% of ticket sales during 2002–2008 suggested that movies that ranked in the top 10 for at least 1 week accounted for more than 95% of theater tobacco use impressions (*3*). Second, this analysis examined all tobacco use incidents rather than smoking alone. However, the majority of tobacco use incidents depict smoking, and exposure to both smoking and total tobacco use incidents are predictive of youth smoking initiation (*1*). Third, although theatrical tobacco impressions are down substantially, this measure must be interpreted cautiously because movies, including those containing incidents of tobacco use, can be viewed through many other channels (e.g., recorded media [DVDs], television, and the Internet), which do not factor into the calculation of movie theater impressions. Fourth, detailed audience composition data are not publicly available; therefore, the number of tobacco use impressions delivered by a particular movie to children and adolescents could not be determined. Finally, although this analysis shows the trends in movie tobacco depictions over time, it cannot definitively assess the reasons for those trends.

[¶] Senate Subcommittee on Commerce, Science and Transportation, 108th Congress. Impact of smoking in the movies (May 11, 2004). Prepared testimony available at http://commerce.senate.gov/public/index.cfm?p=hearings&contentrecord_id=82d1efdc-6f24-4aa0-9ded-a66b60b2871c&contenttype_id=14f995b9-dfa5-407a-9d35-56cc7152a7ed&group_id=b06c39af-e033-4cba-9221-de668ca1978a&monthdisplay=5&yeardisplay=2004. House Subcommittee on Telecommunications and the Internet, 110th Congress. Images kids see on screen (June 22, 2007). Testimony and webcast (Panel 1) available at http://energycommerce.house.gov/index.php?option=com_content&view=article&id=251&catid=32&itemid=58.

[**] Data available at http://apps.nccd.cdc.gov/youthonline/app.

Effective methods to reduce the potential harmful influence of onscreen tobacco use should be implemented. Policies to decrease the negative effects on youths of onscreen depictions of smoking in movies have been recommended by the World Health Organization (*8*) and endorsed by a number of public health and health professional organizations.†† These include assigning R ratings to new movies that portray tobacco imagery. An R rating policy would create an economic incentive for producers to leave smoking out of movies that are marketed to youths. A 2005 study concluded that the return on investment for youth-rated movies was 70%, compared with 29% for R-rated movies (*9*). Reducing the number of movies containing tobacco incidents is expected to reduce the amount of onscreen smoking seen by youths and the associated likelihood that they will become smokers (*10*). Complementary recommended policies (*8*) include requiring strong antitobacco ads preceding movies that depict smoking, not allowing tobacco brand displays in movies, and requiring producers of movies depicting tobacco use to certify that no person or company associated with the production received any consideration for that depiction.

†† A list of major endorsing organizations is available at http://www.smokefreemovies.ucsf.edu/solution.

Acknowledgments

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10

Role of Entertainment Media in Promoting or Discouraging Tobacco Use

Popular entertainment media are a powerful force in the lives of Americans. In particular, young Americans have been shown to spend an average of more than five hours per day exposed to a variety of media channels. This chapter examines the role of entertainment media in encouraging or discouraging tobacco use, including aspects such as

- *Channels of media exposure, particularly for children*
- *Studies performed on tobacco use in the movie industry, ranging from trends in tobacco prevalence by movie type to issues such as how tobacco use is depicted, not portraying the health consequences of smoking, and brand-specific exposure*
- *Studies examining the influence of smoking in the movies on the social attitudes and behaviors surrounding smoking*
- *A summary of research on the portrayal of tobacco use in other media channels, such as television, music, magazines, and the Internet*
- *Current and future strategies for reducing public exposure to tobacco use in entertainment media, including policy interventions, efforts at industry self-regulation, and advocacy efforts aimed at both the public and the entertainment industry*

The total weight of evidence from cross-sectional, longitudinal, and experimental studies indicates a causal relationship between exposure to movie smoking depictions and youth smoking initiation. Further research to better understand this relationship and to evaluate strategies to reduce youth exposure to tobacco portrayals in entertainment media is warranted.

> It's the movies that have really been running things in America ever since they were invented. They show you what to do, how to do it, when to do it, how to feel about it, and how to look how you feel about it.
>
> —Andy Warhol (1928–87)

Introduction

This chapter examines and summarizes what is known about the use of tobacco in entertainment media and its effect on tobacco use in the population. A detailed look at the influence of one of America's oldest entertainment media—the movies—is followed by a discussion of how today's overall media environment can influence tobacco use and steps that can be taken to reduce public exposure to tobacco use in the media. Given the continued rapid growth in media access, particularly among young people, reducing tobacco use in the media could serve as an important factor in changing social attitudes toward smoking.

It has long been believed that the entertainment industry has a profound impact on behavior, especially when it comes to what is perceived as fashionable. The entertainment industry produces stars who introduce large segments of the population to new products and behaviors depicted in mass media. To the extent that viewers form personal connections with these stars through their use of the media, the viewers' own behavior may be influenced. The entertainment industry also serves to maintain behaviors already established in the population.

This chapter begins with a look at the media environment and its evolution as a backdrop for examining media channels that could potentially model smoking behavior. Perhaps because television and movies are so prominent in people's leisure time entertainment, most of the research on the impact of entertainment media on behavior focuses on these media. The next sections of this chapter describe what is known about the smoking images contained in movies and how viewing them affects attitudes and behavior. The text begins with the historical relationship between the tobacco and movie industries, both of which came of age during the early 1900s in the United States. The chapter also summarizes research on portrayal of tobacco in other forms of entertainment media including television, music, magazines, and the Internet. Finally, efforts to reduce audience exposure to tobacco-related media content are discussed, and overall chapter conclusions are drawn.

What Are Entertainment Media?

Entertainment media include print media (books and magazines), audio media (radio and music), and audiovisual media (television, movies, Web-based media, and video/computer games). Just two decades ago, options for media delivery in the home increased with the introduction of the videocassette. Today, the options also include digital media (digital versatile discs [DVDs], compact discs [CDs], video games) and access to entertainment programming through cable/satellite and the World Wide Web. The Web provides unique entertainment options through Web sites that deliver everything from traditional venues, such as news, to options for playing interactive video games with multiple players and downloading podcasts of movies and television shows. The increase in home options for media and the multiplication of media viewing sites within the home (60% of U.S. households contain three or more television sets) have transformed home media viewing from a family event to a much more individualized and tailored pattern of media viewing among family members. For example, parents who grew up before video games or Music Television (MTV) may know little about the specific content of the video games their children

play or the music videos and other video podcasts their adolescents watch because the parents generally do not play or watch them.

Surveys of media availability in U.S. households reveal broad access to each of the home media channels, with electronic media gaining market share over traditional media venues. Two studies that surveyed representative samples of U.S. families with children found similar results. Roberts and colleagues[1] surveyed more than 3,000 families in 1999. Woodard and Gridina,[2] surveyed some 1,200 families one year later. The proportions of families with two or more media delivery devices were 88% for televisions, 58% for videocassette recorders, 85% for radios, 71% for tape players, 59% for CD players, 38% for video game players, and 21% for computers. In addition, most families reported having access to a wide variety of television channels, with about three-quarters of American families having cable/satellite television.[1(p.9)] The only media services strongly related to socioeconomic status were computer ownership and Internet access. All other products were equally distributed across socioeconomic groups. For example, the median number of televisions in households was 2.8 for families with incomes under $25,000, 3.0 for those with incomes between $25,000 and $40,000, and 3.0 for families with incomes above $40,000. The percentages with cable/satellite television access for these income groups were 71%, 73%, and 77%, respectively. However, the percentages with Internet access were 23%, 42%, and 58%, respectively.[1(p.11)]

Media Use

The national surveys cited above also assessed media use by children and adolescents. These young Americans are considered most vulnerable to the effects of media messages, and much of the research discussed here addresses the effects of media on their use of tobacco. About one-half of U.S. children have a television in their bedrooms (65% of children and adolescents older than age 7). Most adolescents also have a radio and a CD player in their bedrooms.[1(p.13)] About one-half of families report that the television is almost always on, and 58% watch television during mealtimes.[1(p.15)] Average media exposure among children is 5.3 person-hours per day (3.3 hours for 2–7 year olds and 6.4 hours for 8–18 year olds). Average media exposure is about one hour less for high-income families than for low-income families.[1(p.19)]

One study noted that children and adolescents distribute their time in using entertainment media in the following proportions: television, 46%; CDs and tapes, 12%; movies and videos, 11%; print media, 11%; radio, 10%; video games, 5%; and computer, 5%.[1(p.20)]

As children age, one-half of the additional time spent with media is due to an increase in television viewing; the remainder is due to increases in time spent watching taped television shows, taking trips to the movie theater, listening to the radio and music, and, for boys, playing video games.[1(p.20–21)] Note that television viewing comprises both the viewing of television programming (traditional programming and movies from movie channels) plus nontraditional venues such as MTV. Thus, the viewing of television programming and movies takes up more than one-half of the five to six hours that children use media each day.

All of these media have the potential to influence the attitudes and behavior of young consumers toward tobacco products. A large body of research exists on the impact of tobacco use in movies on attitudes toward smoking. This medium therefore serves as a valuable exemplar for further study in how various mass media might influence the potential for tobacco use. Thus, movies are the primary focus of this chapter. Later sections examine research findings regarding exposure to tobacco in other media. Together

with the existing body of knowledge surrounding the portrayal of tobacco use in movies, this chapter forms a base for future work on the impact of entertainment media on tobacco-related health issues.

Historical Perspective: Movies

Examination of the role of entertainment media in tobacco marketing is increasingly becoming an area of active research. Most of this work has focused on portrayal of tobacco in movies. Quantitative studies suggest that youth exposed to on-screen smoking are more likely themselves to initiate smoking.[3–9] These reports should prompt more careful examination of the historical role that the entertainment industry may have played in the marketing of tobacco. Pierce and Gilpin[10] have identified four key periods in a historical analysis of tobacco marketing and smoking initiation among U.S. adolescents and young adults. Tobacco companies marketed cigarettes to men during the first period, from the inception of the industry's marketing practices in the 1880s to about 1920. By 1920, the market for men was established and considered mature.[11] The industry then turned its attention to increasing sales among women.[12] For the next two decades, the industry added to its marketing portfolio messages aimed at women. Campaigns explicitly targeted women, as exemplified by the Lucky Strike "Reach for a Lucky Instead of a Sweet" print media campaign during that period.[13]

This specific campaign focused on weight control. However, the cigarette also was positioned as a symbol of independence and equality for women. At about the same time, Chesterfield rolled out a campaign aimed at changing social norms regarding smoking, with an emphasis on the social interaction between men and women. The campaign was launched by a 1926 billboard depicting a man who is smoking, seated next

Early Lucky Strike advertisement targeted at women

to a woman who asks him to "blow some my way." The company also recognized the role movie stars play in establishing social trends and recruited prominent actresses of the time to endorse the brand in their print advertisements. Chesterfield advertisements regularly featured glamour photographs of a Chesterfield "girl of the month," primarily fashion models and Hollywood starlets. Some endorsers were actresses, including Joan Bennett, Claudette Colbert, Joan Crawford, Betty Grable, Rita Hayworth, Marion Hutton, and Rosalind Russell. During the late 1940s, the advertisements continued to feature glamorous women but also included male stars. Star endorsements during this period included Charles Boyer, Perry Como, Bing Crosby, Arthur Godfrey, Bob Hope, Dorothy Lamour, Virginia Mayo, Ethel Merman, Gregory Peck, Basil Rathbone, Ann Sheridan, Jo Stafford, and James Stewart.

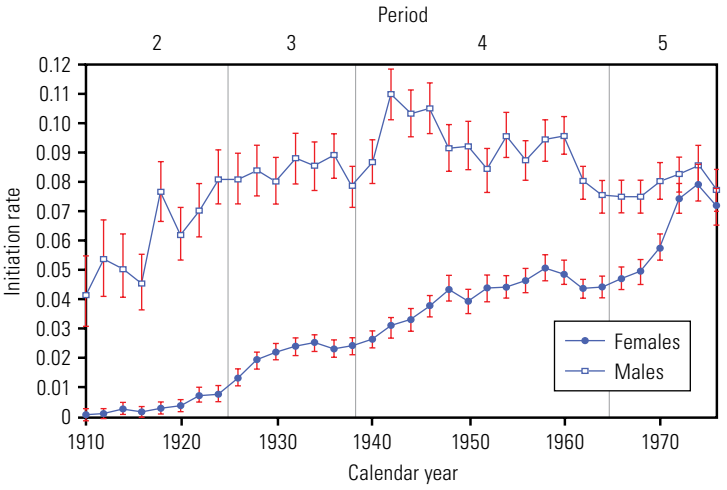
From 1943 through 1946, advertisements for the Regent brand of cigarettes featured drawings of celebrities, including Fred Astaire, Diana Barrymore, Joan Blondell, Bing Crosby, Robert Cummings, Jinx Falkenberg, Arlene Francis, June Havoc, Celeste Holm, Guy Lombardo, Merle Oberon, and Jane Wyatt.[14] These advertisements provide historical evidence of a strong,

Chesterfield cigarette advertisement featuring actress Joan Crawford
Note: from Ladies Home Journal *1949*

mutually beneficial relationship between the cigarette industry and the movie industry. It would be reasonable to assume that the stars were paid for their appearances in the advertisements as well as receiving nonmonetary benefits, such as increased exposure. Public relations specialists of that era were beginning to perceive the potential power of celebrities and the media (including motion pictures) as ways to change social norms around smoking. The work by public relations pioneer Edward Bernays[15] is particularly relevant; for example, he sponsored, on behalf of the American Tobacco Company's Lucky Strike cigarettes, demonstrations in 1929 in which fashion models gathered on street corners to smoke their "torches of freedom."

The tobacco industry advertising campaign aimed at women is credited with the steady increase in cigarette smoking initiation rates among women during this period (1925–39) (figure 10.1). After 1939, and through the mid-1960s, tobacco marketing no longer focused on any particular subgroup.[10] However, smoking initiation rates among women continued to increase at the same pace as they did through the 1920s and 1930s. Attending motion pictures was a national pastime by 1940, with Americans spending almost one-quarter of their total recreation dollars on movies

Figure 10.1 Smoking Initiation Rates Among U.S. Males and Females Ages 14–17 Years, by Year



Note. From Pierce, J. P., and E. A. Gilpin. 1995. A historical analysis of tobacco marketing and the uptake of smoking by youth in the United States: 1890–1977. *Health Psychology* 14 (6): 500–08. Copyright © 1995 American Psychological Association. Reprinted with permission.

Smoking: A Requirement of the Role

One case report describes an actor being introduced to smoking on the set of his first movie. In a *New York Times* Op Ed column,[a] Kirk Douglas states he never smoked during his Broadway career in the early 1940s. Mr. Douglas goes on to describe his first movie role, in 1946.

"My first picture was *The Strange Loves of Martha Ivers,* with Barbara Stanwyck and Van Heflin, in 1946. I was intimidated, but proud to be playing the role of Miss Stanwyck's husband. I arrived at the set, very excited, to do my first scene with her. But I had spoken only a few lines when the director, Lewis Milestone, stopped the action and said, "Kirk, you should be smoking a cigarette in this scene."

"I don't smoke," I replied timidly.

"It's easy to learn," he said, and had the prop man hand me a cigarette.

I continued with the scene, lighting and smoking my first cigarette. Suddenly, I began to feel sick to my stomach and dizzy.

"Cut," yelled the director. "What's the matter with you, Kirk? You're swaying."

I rushed to my trailer to throw up. But Mr. Milestone was right. It's easy to learn to smoke. Soon I was smoking two to three packs a day."[a]

[a]Douglas, K. 2003. My first cigarette, and my last. *New York Times,* May 16.

(compared with only 2% today). Weekly attendance at U.S. theaters was more than 90 million.[16] By 1940, depictions of actors and actresses smoking in movies were an established routine.

An example of how smoking depictions in movies might have affected the population's social perceptions of smoking is the 1942 movie *Now, Voyager,* starring Bette Davis and Paul Henreid. Bette Davis plays a young Boston socialite who has been repressed and dominated by her mother. She smokes surreptitiously until she meets and falls in love with an older man (Paul Henreid) on a cruise.

The sequence is captured at the close of the voyage, when Henreid lights two cigarettes and hands one to his lover just before a parting embrace. Given the popularity of this movie and these stars at the time, this sequence may have influenced the socialization of women to take up smoking, in part by teaching men a novel way to offer a cigarette to a woman. Although no direct evidence supports an advertising motive for such scenes, they mirror the romantic themes included in cigarette advertising at the time, as illustrated by the Lucky Strike advertisements from the mid-1930s.

The use of stars to endorse cigarettes in advertisements continued into the 1950s, with Chesterfield endorsements from women movie celebrities, such as Dorothy Lamour, Virginia Mayo, Ethel Merman, Ann Sheridan, and Jo Stafford. In addition to leading ladies, the advertising of the 1950s heralded new young stars, such as James Dean who depicted rebellious adolescent characters and consolidated the image of the "bad boy" smoker. In *Rebel Without a Cause,* the image of Dean smoking a cigarette was so intertwined with his character image that smoking was incorporated into publicity posters for his movies. Thus, smoking was promoted in another way—through publicity photographs and posters distributed worldwide (as the German rendition of the poster illustrates).

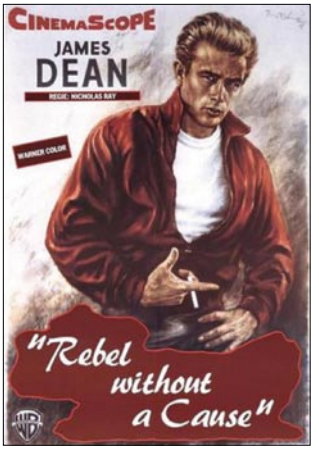
As television began to become a mass medium, the tobacco industry began

Scenes from Now, Voyager *(1942)*

Magazine advertisements for Lucky Strike documenting thematic similarities between cigarette advertising and movie depictions of smoking

sponsoring television shows, providing cash to this fledgling entertainment industry before it had a sizable audience to attract other types of mainstream advertising.[17] Tobacco companies remained prominent sponsors until television advertising of tobacco was banned in the United States in January 1991. Television advertisements produced during the 1950s included endorsements by prominent movie stars. For example, John Wayne appeared in a number of Camel commercials during this period.

The extent to which the tobacco industry played a role in tobacco product placement in movies was speculative until specific evidence of financial links between the tobacco and movie industries emerged upon the release of tobacco company documents.[18] Other documents indicate that several movie stars, including Pierce Brosnan, James Coburn, Roger Moore, and Charlie Sheen, were recruited to represent a James Bond type of figure in an advertising campaign for Lark cigarettes during the 1980s in Japan.[19] Chapter 4 describes in detail paid product placement of tobacco images in movies. Although these documents pertain to brand placements in movies produced during the 1970s and 1980s only, the practice probably preceded those decades. Schudson[20] argues that the practice of deliberately mentioning or picturing particular products in films occurred earlier. "In the 1930s and 1940s,



Promotional posters for Rebel Without a Cause *(in English and German)*

De Beers increased the role of diamonds in Hollywood films, just as cigarette manufacturers saw to it that leading actors and actresses smoked cigarettes in movies in the 1920s."[20(p.101)] It would be surprising if A. D. Lasker, Edward Bernays, and other public relations specialists of that era failed to recognize the potential power of motion pictures as a way to change social norms concerning smoking. As discussed below in "Movie Content," smoking continues to be depicted in movies. Cigarette brands also appear, although movie scenes showing actors actually using a specific brand have declined.

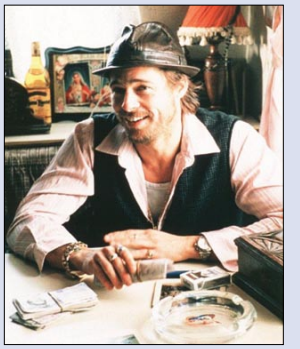
In summary, the relationship between the media entertainment industry and the tobacco industry dates back to the inception of the media industry. The first focus was on marketing cigarettes to the U.S. population by securing endorsements from prominent stars and through prominent depiction of smoking in motion pictures. There is no early evidence of paid placement of tobacco products in movies. However, it seems likely that the depiction of smoking in films contributed to the establishment of social norms that encouraged women to smoke as a mark of independence and equality, as a way to establish a conversation (break the ice) between men and women, and in ways that paralleled other cigarette advertising themes at that time. Early movie images of male smokers as tough and independent also may have promoted to men the appeal of tobacco use. In addition, the entertainment industry was key in establishing the prototype of the rebellious adolescent cigarette smoker. This prototype continues to attract adolescents to smoking in the present.

Movie Content

Content analysis refers to a research method in which coders systematically count and

Tobacco Portrayal Goes Beyond the Movie Itself

Tobacco product exposure in movies is not necessarily limited to the actual film content. The depiction of smoking and brands in promotional photographs still occurs. For example, the photograph shown here, released with a set of promotional photos by Screengems Productions for the movie *Snatch,* was widely published in newspapers across the United States. The photograph shows Brad Pitt sitting at a desk with a pack of Marlboro Golds. Interestingly, no cigarette brand appeared in the actual movie. The practice of showing smoking and cigarette brands in movie promotional products has not been studied systematically. Therefore, it is difficult to determine how important these materials are from a communications standpoint.



Publicity photograph released with the movie Snatch, *Screengems, 2000.*

Thank You for Smoking

Jason Reitman's 2006 satirical film, *Thank You for Smoking,*[a] based on Christopher Buckley's novel, highlights some of the realities of the relationship between the media and tobacco. The main character in the movie, Nick Naylor, is a spokesperson for the fictional Academy of Tobacco Studies run by cigarette manufacturers. Naylor suggests that declining rates of teen smoking can be turned around through the use of smoking in upcoming Hollywood films. He travels to Los Angeles to meet with an agent and negotiate the use of cigarettes in a futuristic film "where smokers and nonsmokers live in perfect harmony." Both Naylor and the agent acknowledge that the use of cigarettes by Catherine Zeta Jones and Brad Pitt will "sell a lot of cigarettes."

Real-life tobacco companies have been banned from sponsoring Hollywood films since the 1998 Master Settlement Agreement. However, the use of cigarettes in movies is still prominent, and studies examined later in this chapter show a positive correlation between exposure to on-screen smoking and smoking initiation rates for adolescents. One study[b] of 6,522 randomly selected participants suggests that exposure to on-screen smoking is the primary independent risk factor for teen initiation rates. So Naylor's prescription to have actors smoke on screen in order to "sell a lot of cigarettes" is, at least among adolescents, supported by academic research.

The correlation between on-screen smoking and smoking initiation rates has led to some tobacco control groups pushing for more restrictive ratings for movies portraying tobacco use. So far, these efforts have been unsuccessful. It is unlikely that these groups will switch to *Thank You for Smoking's* final tobacco control idea: digital replacement of cigarettes in classic films with candy canes, steaming mugs of cocoa, and drum sticks.

[a]Reitman, J. 2006. Thank You for Smoking [Motion picture]. United States: Fox Searchlight Pictures.

[b]Sargent, J. D., M. L. Beach, A. M. Adachi-Mejia, J. J. Gibson, L. T. Titus-Ernstoff, C. P. Carusi, S. D. Swain, T. F. Heatherton, and M. A. Dalton. 2005. Exposure to movie smoking: Its relation to smoking initiation among US adolescents. *Pediatrics* 116 (5): 1183–91.

characterize media inputs. Published content analyses examining depictions of tobacco use in entertainment media have focused almost exclusively on movies. Less information is available concerning tobacco-related content in other entertainment media.

Study Selection

A number of content analyses have been conducted of portrayal of tobacco in popular movies. Fourteen peer-reviewed studies were identified as published in the medical literature (in English) by using a PubMed search strategy on MEDLINE with the following search terms and Medical Subject Headings (MeSH):

> ((“tobacco”[MeSH Terms] OR tobacco[Text Word]) OR (“smoking”[MeSH Terms] OR smoking[Text Word])) AND (movie[All Fields] OR (“motion pictures”[MeSH Terms] OR motion picture[Text Word]))—103 records obtained, May 9, 2006.

A search of PsycINFO using the key words ((“tobacco” OR “smoking”) AND (“movie” OR “motion picture”)) and restricted to journal articles written in English identified no additional articles on movie content analysis than those already captured by the MEDLINE search (23 articles retrieved, by PsycINFO, May 9, 2006).

Citations in some of the above papers[21] identified one more peer-reviewed paper that examined tobacco as well as other health-relevant behaviors in movies. Further citations to a study by Mekemson and colleagues,[22] a Web-based report,[23] provide additional findings from the American Lung Association's "Thumbs Up!

Thumbs Down!" ongoing content analysis. Four additional published reports on this subject were identified that were of methodological quality comparable with the peer-reviewed studies.[24–27] These reports were commissioned by public agencies, including the White House Office of National Drug Control Policy and the U.S. Department of Health and Human Services' Substance Abuse and Mental Health Services Administration;[27] Center for Tobacco Control Research and Education, University of California;[26] the Health Education Authority in the United Kingdom;[24] and the Massachusetts Public Interest Research Group (a nongovernmental, voluntary organization).[25] Table 10.1 summarizes the methods of movie selection and coding of tobacco use for the respective studies.

Methodological Issues

Together, various studies have sampled and coded tobacco content in popular movies released from 1937 through 2003. However, the studies' methodological differences make it difficult to compare the results. The most common criterion for selecting movies was based on their revenue status as "top box-office" movies, mostly in the United States. Some studies[28–30] selected a random sample of top box-office movies for a given period. Others coded the top 10,[24,31] 25,[32,33] 50,[22] 100,[34] 125,[35] or 200 movies per year,[27] or those grossing at least $500,000 at the box office[26] for a given period of years. In general, the longer the period examined, the fewer movies per year were coded. Other studies have selected the movie sample based on genre or rating only (e.g., G-rated animated movies)[36,37] or a combination of rating and box-office revenue (e.g., top 10 PG movies and video rentals).[25] One study examining the prevalence of smoking among characters in contemporary American movies about American life in the 1990s relative to U.S. population smoking rates selected movies on the basis of box-office revenue, rating, genre, and time and location of setting; that study excluded movies in which cigarette smoking was a central motif.[38]

Another study identified the "top 10" most popular actresses per year for a given period, then randomly sampled movies in which each played a leading role. A number of studies have excluded from their samples movies that were not set in the present—that is, period dramas and science fiction set in the future.[21,38] Despite sampling differences among some studies, most have used sampling criteria based on audience reach. Therefore, the media inputs they documented are likely to provide a valid indication of the amount and nature of on-screen tobacco content presented to viewers. Polansky and Glantz[26] extended their content analysis data to generating quantitative estimates of audience reach (see "Audience Reach" below).

Studies also vary in how they capture tobacco use, especially in terms of their unit of analysis. Many divided their movie samples into five-minute intervals and then counted the number of tobacco occurrences per five-minute interval of film.[21,27–31,40] Others viewed and coded movies as a whole, counting tobacco occurrences within movies.[22,24–26,32–38] Some included as one occurrence all smoking by one character during the course of a movie scene.[32] Others counted an occurrence every time a cigarette entered the screen.[22] These differences obscure comparisons in the absolute numbers of tobacco depictions reported among the studies. Moreover, it is not clear how well the various measures correlate or whether measurement affects trend analyses. However, Polansky and Glantz[26] found that parents' qualitative ratings of the amount of smoking in movies (using a six-point ordinal scale ranging from "none" = no tobacco content through "extreme" = movie is full of tobacco scenes) bore a statistically significant correspondence with coding

Table 10.1 Summary of Methods for Content Analysis Studies: Tobacco in Movies

Authors	Publication year	Country	Movie years (release)	Movie criteria	Interrater reliability	Unit of analysis	Amount of smoking	Reported results of other variables
Goldstein et al.[36]	1999	U.S.	1937–99	All G-rated animation movies released by major production cos. (n = 50)	Not reported	Whole movie	Presence of tobacco use; duration	SC, HC, Chg, TT
Thompson and Yokota[37]	2001	U.S.	1937–2000	All G-rated animated feature movies (n = 81)	1 rater only	Whole movie	% movies depicting tobacco; duration of smoking scenes	SC, HC, Chg, CX, TT
McIntosh et al.[39]	1998	U.S.	1940–89	Random sample of 5 films per decade sampled from top 20 films per year for period (n = 100)	Ranged from 0.74 to 0.94. At least 3 trained raters rated each film.	Whole movie	% of characters who smoked at least once in target films	SC, HC, Chg
Glantz et al.[29]	2004	U.S.	1950–59, 2001–02	Random sample of 20 top films released 1950–59, and 5 of top 20 films for 2001–02 (n = 30)	One coder, cite validity of this approach as per Hazan et al. 1994[28]	5-min intervals of movies	No. of tobacco incidents/hr of movie time	Chg, Brand
Hazan et al.[28]	1994	U.S.	1960–99	2 movies randomly selected from top 20 per year, for each year (n = 62)	0.92 (sd = 0.07)	Each movie divided into 5-min intervals (n = 1,505 5-min intervals)	% tobacco use per 5-min interval of movie (includes use and implied)	SC, HC, Chg, CX, TT (coded, but results not reported), Brand (coded, but results not reported)
Terre et al.[21]	1991	U.S.	1977–88	Top 20 movies per year (n = 169)	95%	Each movie divided into 5-min intervals	Tobacco incidents	SC, HC, Chg, MT
Everett et al.[31]	1998	U.S.	1985–95	Top 10 movies per year (n = 110)	Not reported	Each movie divided into 5-min intervals	Presence of tobacco use (includes use and implied)	SC, HC, Chg, CX
Dalton et al.[32]	2002	U.S.	1988–97	Top 25 movies per year (n = 250)	At least 70% agreement on all measures	Whole movie	No. of tobacco occurrences; time of tobacco use	SC, HC, CX, TT, MT

Note. cos. = companies; SC = smoker characteristics; HC = health consequences; Chg = change over time; TT = type of tobacco; CX = context; min = minutes; no. = number; hr = hour; Brand = brand appearances; sd = standard deviation; MT = movie type; MSA = Master Settlement Agreement; +ve = positive verbal reference; –ve = negative verbal reference; sci-fi = science fiction.

Table 10.1 Summary of Methods for Content Analysis Studies: Tobacco in Movies *(continued)*

Authors	Publication year	Country	Movie years (release)	Movie criteria	Interrater reliability	Unit of analysis	Amount of smoking	Reported results of other variables
Sargent et al.[33]	2001	U.S.	1988–97	Top 25 movies per year ($n = 250$)	Double coding of brand appearances, not reported	Whole movie	% of movies with tobacco use	Chg: pre–post MSA, Brand, MT
Stockwell and Glantz[30]	1997	U.S.	1990–96	Random sample of 5 from top 20 movies per year ($n = 35$)	One coder, not reported	Each movie divided into 5-min intervals	% tobacco use per 5-min interval of movie	SC, HC (antismoking signs or comments), Chg, CX (motivation to smoke), TT, Brand
MacKinnon and Owen[24]	1998	U.K.	1990 and 1995	Top 10 U.K. box-office movies for these years ($n = 20$)	Not reported	Whole movie? (not clear)	No. of smoking incidents	SC, HC (verbal references: +ve/–ve), Chg, CX, Brand
Escamilla et al.[40]	2000	U.S.	1993–97	For each top 10 actress, coded random selection of 5 movies in which they had leading roles ($n = 50$)	99% agreement on smoking variables	Each movie divided into 5-min intervals ($n = 1,116$ 5-min intervals)	Occurrence of smoking in each interval coded % of 5-min intervals that depict smoking	SC, HC, CX, TT, MT
Mekemson et al.[22] American Lung Association of Sacramento[23]	2004	U.S.	1991–2000 (+1994–2003)	Top 50 U.S. movies per year (1991–2000: $n = 497$) (1994–2003: $n = 498$)	All movies coded by 3 teen reviewers, kappa reliability scores >0.85	Whole movie	Tobacco incident counted each time tobacco appears on screen	SC, HC, Chg, CX, TT, Brand, MT
Roberts et al.[27]	1999	U.S.	1996–97	200 most popular movie video rentals for 1996 and 1997 ($n = 200$)	Not reported	Whole movie	Tobacco appearances (use and implied) frequency of tobacco reported/5-min movie interval	SC, HC, CX, TT, Brand, MT
Ng and Dakake[25]	2002	U.S.	1996–97, 1999–2000 (i.e., pre–post MSA)	Top 10 PG-13 movies and top 5 PG-13 video rentals for these years ($n = 42$)	Not reported	Whole movie	Length of tobacco use and tobacco appearance	SC (minors smoking), HC (–ve statements about tobacco use), Chg, CX (of brand appearances), TT, Brand, MT

Authors	Publication year	Country	Movie years (release)	Movie criteria	Interrater reliability	Unit of analysis	Amount of smoking	Reported results of other variables
Polansky and Glantz[26]	2004	U.S.	1998–2003	U.S. produced, English-speaking movies grossing at least $500,000 at box office ($n$ = 776)	Not reported, although good correspondence with tobacco incident data in a study by Dalton and colleagues[32] for equivalent films	Whole movie	Qualitative descriptors of no. of tobacco incidents per movie	Chg, MT
Omidvari et al.[41]	2006	U.S.	1990–98	U.S. movies in top 10 weekly box-office list, excluding G-rated, animated, and sci-fi movies, movies not set in 1990s, and movies with cigarette smoking as a central motif (n = 447)	Not reported	Whole movie	% of top 5 characters who smoke at least once in target films (excluding smoking by non-U.S. citizens or outside U.S.)	SC, MT
Stern[35]	2005	U.S.	1999–2001	Of 125 top-grossing movies per year, coded those where at least 1 adolescent was a central character (n = 43)	Ranged from 0.77 to 1.00	Whole movie	% of major adolescent characters who smoke at least once in target films	SC, MT
Dozier et al.[34]	2005	U.S.	2002	100 top-grossing films in 2002 (n = 100)	Ranged from 0.84 to 0.99.	Whole movie	% of movies with tobacco use, % of characters who smoke at least once in target films	SC, HC, CX, MT

Note. cos. = companies; SC = smoker characteristics; HC = health consequences; Chg = change over time; TT = type of tobacco; CX = context; min = minutes; no. = number; hr = hour; Brand = brand appearances; sd = standard deviation; MT = movie type; MSA = Master Settlement Agreement; +ve = positive verbal reference; –ve = negative verbal reference; sci-fi = science fiction.

conducted by Dalton and colleagues[32] of the number of tobacco incidents for a sample of 389 movies coded by both studies ($p < 0.001$). This finding suggests a strong correspondence between the two different methods of coding the amount of on-screen smoking used in these studies.

The studies also vary in how rigorously they describe their coding procedure. Of the studies reviewed here, only eight reported interrater reliability agreement, with values ranging from 70% to 100% on key coding variables.[21,22,28,32,34,35,39,40] Most studies used adults to code movie content, the exception being the "Thumbs Up! Thumbs Down!" project.[22,23] The latter study trained teams of young people aged 14–22 years to code films according to a standard protocol. The adult coders in the study reported by Polansky and Glantz[26] were parents working for a parental review and screening service at ScreenIt.com, a movie content database.

The criteria for coding tobacco events also varied. Explicit depictions of tobacco use refer to instances in which the use of tobacco was directly portrayed (e.g., the actor smokes on screen). Incidental depictions of tobacco refer to those in which the use of tobacco was implied, without being explicitly portrayed (e.g., the actress is shown placing a cigarette pack in her handbag), or when smoking-related props were shown (e.g., an ashtray on a table in a movie set). Some content-analysis studies only coded explicit depictions of tobacco use.[32,38] Others differentiated between types of tobacco depictions.[27] Some counted explicit and incidental depictions of tobacco together as tobacco events.[29,31] Studies with broader criteria for a tobacco incident tended to report higher rates of depiction as a result of their more inclusive measure.

There is, however, considerable overlap in the content variables the studies attempted to assess (table 10.1). All quantified the amount of smoking in their movie samples. Characteristics of smoking role models and depictions of contexts and consequences associated with smoking also have been recorded. Some studies examined the types of tobacco presented (e.g., cigarettes, cigars, chewing tobacco), the appearances of specific tobacco brands, and whether tobacco portrayal varied with movie release year, Motion Picture Association of America (MPAA) rating, or genre. Common themes recurred in the findings of these studies, despite their methodological differences. The results of these studies are summarized below.

Tobacco Use in Movies

Prevalence by Movie Type

Mekemson and colleagues[22] found that most top box-office movies from 1991 to 2000 had some tobacco use. Polansky and Glantz [26] found that, of U.S. films released between 1999 and 2003, 80% included smoking. Similarly, content analyses of top box-office movies from 1988 to 1997 indicate that most movies (87%) portrayed tobacco use. However, tobacco use accounted for only a small proportion of screen time.[32] In 75% of movies, tobacco exposure accounted for less than 4% of total screen time. Cigarettes were the predominant form of tobacco used, followed by cigars, with little use of smokeless tobacco.[27,32] However, in children's animated movies, cigar use was most common.[36] Tobacco use typically increased with the "adultness" of the MPAA rating. R-rated movies contained more tobacco occurrences and were more likely to feature major characters using tobacco.[22,26,27,32,34] For U.S. movies released from 1999 to 2003, a higher proportion of R-rated movies included smoking (90%) compared with PG-13 (80%) and G/PG movies (50%). However, because of a decline in the total number of R-rated movies released between 1999 and 2003, a shift occurred in the total distribution of movies containing smoking. Most of the movies

released in 2002 and 2003 that contained smoking scenes had a youth rating (PG-13 or G/PG).[26]

Tobacco use was more common in dramas than in comedies, science fiction, or child and family genres.[32] Similarly, Dozier and colleagues[34] found that characters in comedies smoked less frequently than in other genres among 2002's top-grossing movies. The amount of tobacco use in movies did not have a significant association with the movies' box-office success.[32] This finding may suggest that including tobacco in movies provides no direct economic benefit to the entertainment industry. This notion is bolstered by experimental evidence that among adolescent moviegoers, stripping the smoking from a movie does not affect their satisfaction with the movie or willingness to recommend it to a friend.[42]

Trends in the Amount of Tobacco Depicted in Movies Across Years

Examination of changes over the years in the frequency of on-screen depiction of tobacco highlights some discrepancies between movie portrayals of smoking and the social reality of smoking. In a content analysis by Dalton and colleagues[32] of the top 25 box-office hits from 1988 to 1997, the rate of tobacco use among 1,400 major characters was 25%. This finding was not discordant with the prevalence of smoking among U.S. adults during that period. McIntosh and colleagues[39] found that the proportion of leading characters who smoked increased from 20% in the 1940s to 31% in the 1950s. The proportion then declined to 18% in the 1960s, 17% in the 1970s, and finally 12% in the 1980s. Omidvari and others[38] found that, among contemporary U.S. movie characters during the 1990s, smoking prevalence was similar to that in the general U.S. population. In these three studies, the proportion of characters who smoked does not appear to exceed historical trends for smoking prevalence.

However, trends in the sheer frequency with which tobacco appears in movies across years do appear to be discordant with declining smoking rates in the actual population. In a sample of top box-office U.S. films from 1950 to 2002, the number of smoking incidents per 5-minute interval of film declined from 10.7 incidents per hour in 1950 to a minimum of 4.9 in 1980 to 1982 but increased to 10.9 in 2002.[28–30] Another study found that, after an initial drop in the frequency of depicting tobacco in the 1970s and mid-1980s, the rate subsequently increased.[21] Dalton and colleagues[32] found that the number of tobacco occurrences in top box-office U.S. movies remained constant between 1988 and 1997, despite declining trends for smoking prevalence in the actual U.S. population. Mekemson and others[22] found a weak decline in the amount of tobacco use per minute of film between 1991 and 2000. However, these rates appeared to increase again between 2001 and 2003.[23] MacKinnon and Owen[24] found that smoking was depicted more frequently in movies released in 1995 than in 1990.

The depiction of smoking in children's animated films did not decrease between 1937 and 1997.[36] Later analyses of the "Thumbs Up! Thumbs Down!" content analysis dataset[23] found that in PG-13 films, the total number of tobacco incidents depicted per year increased substantially between 2000 and 2003. Thus, the argument that on-screen smoking reflects social realism does not hold up as a reason for trends in the rate of smoking depiction in movies across the years. Movie content appears to be out of step with declining smoking rates in the U.S. population. These results raise questions about the role of films in amplifying notions of tobacco smoking being widespread. A number of movie content analysis studies observed a pattern of increased depiction

of smoking in the late 1980s and early 1990s. This time span follows the period during which there is documented evidence of paid tobacco product placement deals occurring in relation to film. Examination of trends in the rate of movie depictions of tobacco in relation to key tobacco-control events suggests these events have not precipitated marked reductions in on-screen tobacco portrayals.[33,36]

Characteristics of On-Screen Smokers

As indicated earlier, smoking prevalence among characters in films was not markedly discordant with smoking prevalence in the actual population (i.e., 25%).[32] However, Dalton and colleagues[32] found that the social characteristics of leading characters were atypical (e.g., attractive, high socioeconomic status) so the characters represented as smokers did not reflect the social reality of smoking. Hazan and colleagues[28] found that between 1960 and 1990, the prevalence of smoking among major characters with high socioeconomic status was nearly three times as high as among people of similar socioeconomic status in the actual U.S. population. In the 1980s, tobacco events involving young adults (aged 18–29 years) more than doubled compared with the previous two decades. However, tobacco events involving somewhat older adults (aged 30–45 years) fell by nearly one-half.[28] More recent movies tended to portray smoking by adults more often than smoking by adolescents. For popular movies from 1996 and 1997, smoking rates of 17%, 26%, and 25% were recorded for major characters aged younger than 18, 18–39, and older than 39 years, respectively.[27]

Stern[35] found an identical smoking prevalence (17%) among major teen movie characters for top-grossing films from 1999 to 2001. Dozier[34] found that only 2% of teenagers smoked in top-grossing films for 2002. The on-screen smokers tended to be adult, white, and male. Future studies replicating sampling and coding methods over time will be necessary to confirm whether a significant decline has occurred in on-screen smoking among teen characters. Dalton and colleagues[32] found that only 3% of tobacco occurrences were adolescents smoking and that the typical smoker in movies was white, male, middle-aged, and of high socioeconomic status—traits possessed by most leading characters. Omidvari and colleagues[38] found that among leading American movie characters portrayed in the United States in the 1990s, smoking on-screen was associated with being male and of lower socioeconomic class.

The different findings of these studies in relation to the apparent class of on-screen smokers may reflect the different sampling methods used. Dalton and colleagues[32] and Dozier and colleagues[34] selected movies solely on box-office rating. Omidvari and others[38] selected a subset of top box-office movies based on a range of exclusion criteria (table 10.1). The findings of Dalton and colleagues provide an account of smoking prevalence among prominent movie characters during the 1990s across movies of all genres set in all eras. However, Omidvari and colleagues[38] evaluated smoking prevalence among U.S. movie characters in films of realistic genres set in the 1990s. These researchers focused on this subset of movies on the grounds that they were examining how movies portrayed smoking prevalence in contemporary life. Films set in the present may present smokers as more socially disadvantaged than did films in previous eras. The study by Omidvari and colleagues provides a useful snapshot of how contemporary on-screen smoking depictions compare with smoking prevalence in the general U.S. population. However, they do not represent a complete picture in terms of audience reach and impact of on-screen smoking (this was not their aim). As Glantz and Polansky[43] argue, there is no evidence that viewers, particularly adolescents, distinguish between portrayals of tobacco

in historical, contemporary, and futuristic films or between portrayals of tobacco in American and non-American films to which they are exposed.

The concern about the types of characters who are predominantly depicted as smokers in movies is that smoking is modeled by characters bearing aspirational traits—such as good looks, maturity, affluence, and power—similar to the sorts of images traditionally promoted in tobacco advertisements. Theories of media influence and persuasion predict that role models bearing such traits are the most influential to audiences.[44,45] As described later in this chapter, in "Effects on Attitudes, Beliefs, and Behavior: Movies," some audience studies suggest that the sheer frequency of exposure (across all movie genres and settings) is important to media impact. Audience studies have not yet examined whether responses vary with the historical setting of smoking. Evidence is emerging, however, that responses vary with character traits of smoking models.

Other Social and Emotional Imagery

McIntosh and colleagues[39] found that in popular films from 1940 to 1989, smokers were depicted as more romantically and sexually active and marginally more intelligent than nonsmokers. However, smokers and nonsmokers did not differ in terms of their attractiveness, goodness, socioeconomic status, aggressiveness, friendliness, or outcome at film's end. In movies released from 1988 to 1997,[32,34] smoking often is depicted (1) in association with intimacy and social activity; (2) as motivated by certain mood states (e.g., agitation, sadness, happiness, relaxation, pensiveness); or (3) in conjunction with other risk-taking behaviors (e.g., drug use or violence).[32] Among American movie characters portrayed as contemporary in the 1990s, smoking was more common among antagonists.[38] Two cross-sectional surveys of movie content report that in movies released during the 1990s, smoking was increasingly associated with stress reduction and hostility.[24,28] It is unclear whether this shift in imagery reflects changes in social norms concerning smoking, cinematic style, or commercial factors.

Health Consequences

A key concern about depictions of smoking on screen is that the health consequences of smoking are rarely shown. Content analyses of children's animated films released between 1937 and 1997 indicated that more than two-thirds of the films included tobacco use without clear verbal messages of any negative long-term health effects of smoking.[36] Similarly, Hazan and colleagues[28] found that most tobacco events in movies from 1960 to 1990 did not include health messages. Roberts and others[27] found that, among the 200 most popular movie rentals for 1996 and 1997, negative long-term health effects associated with substance use (smoking, drug use, or alcohol consumption) were rarely depicted (in less than 7% of movies). Similarly, an analysis by Everett and colleagues[31] of top box-office U.S. films from 1985 to 1995 indicated that on average only 3.5% of tobacco events were antitobacco, compared with 32.3% of tobacco events that were categorized as protobacco. In top-grossing films for 2002, most (92%) incidents involving tobacco were portrayed without consequences.[34]

In another study, youth viewers found that 74% of the top 50 movies between 2000 and 2003 that depicted tobacco contained protobacco messages.[23] Dalton and colleagues[32] found that negative reactions to tobacco use (e.g., comments about health effects or gestures such as coughing) were depicted in only 6% of tobacco occurrences. Escamilla and others[40] found that movies rated as PG/PG-13 were less likely than R-rated movies to contain negative messages

about smoking. In PG/PG-13 films, only 9 of 22 tobacco messages were antitobacco, compared with 21 of 31 messages in R-rated/unrated films. It is especially of concern that health effects may be more frequently omitted from movies targeted toward younger audiences. As demonstrated by social learning theory,[45] showing hazardous behaviors in the absence of negative consequences is likely to make viewers more inclined to mimic them than if the negative consequences were shown.

Brand Appearances

Content analyses suggest that appearances of specific tobacco brands in movies occur frequently, despite a voluntary agreement on the part of the tobacco industry to stop paying for their brands to appear (the Cigarette Advertising and Promotion Code incorporated a voluntary ban on paid product placement circa 1991). In a 10-year sample of top box-office films from 1988 to 1997, the most highly advertised U.S. cigarette brands also accounted for the most brand appearances in the movies, and no decline occurred after 1991.[33] Most (85%) of the films contained some tobacco use, with specific brand appearances in 28% of the total film sample. Brand appearances were as common in films suitable for adolescent audiences as in films for adult audiences. Although 27 tobacco brands were depicted in the movies sampled, 4 cigarette brands accounted for 80% of brand appearances. The brands were Marlboro (40%), Winston (17%), Lucky Strike (12%), and Camel (11%). Other content analyses of movies sampled from the late 1990s have found that brand appearances for Marlboro occurred five to six times more frequently than those for other tobacco brands.[24,27] The U.S. film industry's use of the most heavily advertised tobacco brands (see chapter 4 for advertising expenditures by brand) in internationally distributed films suggests that film serves as a global advertising medium for tobacco, as about one-half of box-office receipts for these films are from overseas.[33]

Often, brand appearances involve only glimpses of cigarette packaging in the ambient scene environment. A subset of brand appearance of particular concern, termed *actor endorsement,* is display of the tobacco brand while an actor handles or uses a product.[33] It is reasonable to single out actor endorsement, because the film industry does so in its negotiations for placements for various products, often asking for a higher payment when an actor uses a particular brand.[33] Table 10.2 is derived from an ongoing content analysis of the top 100 box-office hits and covers the years 1996–2002. The table lists all actor endorsement tobacco events captured during the seven-year period. The table documents 46 tobacco brand endorsement scenes from 43 of the 700 movies, thus giving a measure of the scope of the activity. Table 10.2 also illustrates that foreign cigarette brands are rarely depicted, the Marlboro brand captures most actor endorsements (25 of 46 endorsements), actor endorsement is not limited to one or two actors, and actor endorsement usually occurs only once or twice during the course of a movie. The one exception is the movie *28 Days,* which contains nine actor endorsements of Marlboro.

Audience Reach

One issue limiting the utility of content analysis studies is that most do not include an estimate of reach. *Reach* typically is defined as the number of people who see a particular form of advertising.[46] Polansky and Glantz[26] estimated reach among adolescents for smoking in movies released at the box office between 1999 and 2003. They first estimated the number of smoking depictions contained in 776 movies released during this period by using data from ScreenIt.com (i.e., about 5,500 tobacco incidents in all movies). They then used box-office data

Table 10.2 Brand Cigarette Use Depicted in Contemporary Movies

Actor name	Brand endorsed	Number of endorsement scenes	Movie name	Year of release
Drescher, Fran	Marlboro	1	Jack	1996
Eldard, Ron	Marlboro	1	Sleepers	1996
Davis, Geena	Parliament	1	Long Kiss Goodnight, The	1996
Addy, Mark	Foreign Brand	1	Full Monty, The	1997
Carlyle, Robert	Foreign Brand	1	Full Monty, The	1997
Roberts, Julia	Marlboro	2	My Best Friend's Wedding	1997
Sheen, Charlie	Marlboro	1	Money Talks	1997
Franz, Dennis	Camel	1	City of Angels	1998
Newman, Paul	Camel	1	Twilight	1998
Sarandon, Susan	Camel	1	Twilight	1998
Hawke, Ethan	Kool	1	Great Expectations	1998
Cage, Nicolas	Marlboro	1	Snake Eyes	1998
Janssen, Famke	Marlboro	1	Rounders	1998
Keaton, Michael	Marlboro	1	Desperate Measures	1998
Reno, Jean	Marlboro	1	Godzilla	1998
Eastwood, Clint	Camel	2	True Crime	1999
Bujold, Genevieve	Foreign Brand	1	Eye of the Beholder	1999
Leguizamo, John	Marlboro	1	Summer of Sam	1999
Quaid, Dennis	Camel	1	Frequency	2000
Bullock, Sandra	Marlboro	4	28 Days	2000
Buscemi, Steve	Marlboro	1	28 Days	2000
Dooly, Mike	Marlboro	1	28 Days	2000
Pratt, Wendee	Marlboro	1	28 Days	2000
Santoni, Reni	Marlboro	1	28 Days	2000
Skye, Azura	Marlboro	1	28 Days	2000
Vaughn, Vince	Marlboro	1	Cell, The	2000
Carrey, Jim	Marlboro	1	Me, Myself & Irene	2000
Wilhoite, Kathleen	Marlboro	1	Pay It Forward	2000
Schwimmer, Rusty	Marlboro	1	Perfect Storm, The	2000
Fisher, Carrie	Marlboro	1	Scream 3	2000
Scott, Dougray	VF	1	Mission: Impossible II	2000
West, Dominic	Winston	1	28 Days	2000
Washington, Denzel	Kool	1	Training Day	2001
Barrymore, Drew	Marlboro	1	Riding in Cars with Boys	2001
Rockwell, Sam	Marlboro	1	Heist	2001
Zahn, Steve	Marlboro	1	Riding in Cars with Boys	2001
Germann, Greg	Parliament	1	Joe Somebody	2001
Crowe, Russell	Winston	1	Beautiful Mind, A	2001
de Matteo, Drea	Winston	1	Swordfish	2001
Hoechlin, Tyler	Bugler	1	Road to Perdition	2002
Johnson, Carl J.	Marlboro	1	Men in Black II	2002

Note. From a content analysis of the top 100 movies each year from 1996 through 2002.

from the National Association of Theatre Owners and Nielsen data on average audience share by age as well as the MPAA ratings to determine the number of children 6–17 years of age who purchased tickets to see these movies. The MPAA is the lobbying arm of the film industry. The researchers estimated that the thousands of smoking incidents in hundreds of movies multiplied by the number of tickets purchased to see these movies resulted in about 8.2 billion smoking depiction impressions for children and adolescents during the five-year period. Although these estimates are subject to error and may be overestimated, they are a general measure for the very large scale of exposure from a population standpoint. They also do not include viewings of movies as DVD releases or on television in the years following the theatre release dates.

Effects on Attitudes, Beliefs, and Behavior: Movies

Content analysis studies are useful for documenting media inputs, but they do not provide evidence concerning audience responses to such content. This section reviews the results of research on audience responses to tobacco content in entertainment media. Most of the media-effects research on tobacco in entertainment media has focused on movies rather than on other forms of entertainment media. This section focuses, therefore, on the findings of that movie research.

Qualitative Studies

Researchers taking a cultural studies approach to media research place a heavy emphasis on the subjectivity of interpretation of media messages. They tend to use qualitative methods to investigate interpretations of media among small numbers of audience members. These studies provide informative descriptive data but do not provide conclusive information as to impact of the media. A search of PubMed identified seven such studies by using the following strategy:

> ((“focus groups”[MeSH Terms] OR focus group[Text Word]) OR qualitative[All Fields]) AND ((“tobacco”[MeSH Terms] OR tobacco[Text Word]) OR (“smoking”[MeSH Terms] OR smoking[Text Word])) AND (movies[All Fields] OR (“motion pictures”[MeSH Terms] OR motion picture[Text Word]) OR media[Text Word]))
> 41 records obtained, May 9, 2006.

Five of the studies reported on focus groups conducted with adolescents;[47–51] one was on focus groups and interviews with college students;[52] and one was on interviews conducted with a convenience sample of writers, actors, directors, producers, studio executives, and others involved in the film industry.[53] Two additional relevant focus group studies were identified via citations in other papers by MacFadyen and colleagues[54] and the World Health Organization (WHO).[55] All of these studies used an acceptable qualitative research methodology.

Similar results concerning young people’s interpretations of smoking imagery in film have been found for focus group studies conducted with college students in India (8 groups, N = approximately 50)[52] and adolescents in Australia (16 groups, N = 117),[47] New Zealand (approximately 10 groups, N = 76;[48] and approximately 10 groups, N = 88),[49] India (8 groups, number not reported),[55] and the United States (178 groups, N = 1,175;[51] and 31 groups, N = 205).[50] Young people reported that movies are an important source of information about smoking and that these images convey the notion that smoking is a normative, acceptable behavior; offers a means of stress relief; conveys a certain social image; and may serve as a marker of adult independence. Together, these

findings indicate that young people perceive images of smoking in movies as leading to positive social or personal consequences rather than as presenting information about the negative health consequences of smoking. Qualitative research further indicates that other mass media with a visual component (e.g., television, magazines) convey mainly protobacco information about smoking to youth audiences (12 groups, $N = 70$ approximately;[54] and 178 groups, $N = 1{,}175$).[51]

Cross-Sectional Studies

Cross-sectional studies attempt to quantify the relationship between exposure to media and attitudes, beliefs, or behavior in population-based samples. One unpublished and eight published cross-sectional studies of the relationship between exposure to smoking in movies and adolescent smoking were identified. Articles from the medical literature were identified through the following PubMed search strategies:

1. ("Smoking"[MeSH] OR "Tobacco"[MeSH]) AND "Motion Pictures"[MeSH], 79 records obtained, May 10, 2006
2. ("Smoking"[MeSH] OR "Tobacco"[MeSH]) AND ("movie star" OR "movie stars"), 5 records obtained, May 10, 2006

Articles from the literature on psychology, marketing, and communications were identified by searching PsycINFO, using the following search strategy and limiting to articles in English:

> KW=(smoking or tobacco) and KW=(movies or (motion picture), 26 records obtained, May 10, 2006

The studies were reviewed for inclusion of design characteristics that increased the reviewer's confidence that the relationship demonstrated in the studies was a true media effect for the study sample and that the findings were generalizable (see table 10.3 for summary scores of the studies). On the basis of these criteria, two cross-sectional studies were excluded from the review[5,6] because they included no controls for covariate influences. The remaining studies—seven published and one unpublished—involved four cross-sectional analyses of three U.S. samples[7,9,56,57] and one unpublished Australian sample of adolescents.[58]

As shown in table 10.3, researchers have tended to use two general measures of movie influence. One assesses the smoking status of favorite movie stars,[4,9,56,58] and the other relies on movie title recognition.[3,7,57] The first measure, smoking status of favorite movie stars, is an exposure measure that taps the self-concept and the prototypical smoker. People choose behaviors that are consistent with their self-concepts.[59] Self-concept ratings of adolescent smokers, as well as susceptible nonsmokers, are more similar to their ratings of the prototypical smoker than are the self-concept ratings of nonsmokers.[60–62] In theory, adolescents also may initiate behaviors as they modify their self-images. Behavioral depictions by favorite stars shape that process by determining what is "cool," attractive, and grown up. To the extent that smoking portrayals are consistent with adolescents' actual or ideal self-images or a prototype of the ideal group member (that is, appearing grown up), adolescents will be motivated to smoke to align their self-perceptions with personal ideals.[63,64]

In determining the smoking status of favorite stars, Distefan and colleagues[4,56] and Dixon[58] asked adolescents to list their favorite male and female movie stars. The researchers developed lists of the top 10 male and female actors and subsequently used content analysis to determine the on-screen smoking status for these individuals. The Distefan study also determined these stars' real-life smoking status. Other

Table 10.3 Summary of Results of Cross-Sectional and Longitudinal Studies: Smoking and Movies

Study	Study design	Recruitment	Subjects	Country	Media influence measure
Distefan et al. 1999[56]	Cross-sectional	Random digit dial	3,053 adolescents aged 12–17 years	U.S.	Chooses favorite movie star of ever (vs. never) smokers
Dixon 2003[58]	Cross-sectional	School based	2,610 adolescents aged 12–18 years; attitudes assessed among subgroup of 1,858 never/ experimental smokers	Australia	Movie smoking status of favorite star
Tickle and Sargent 2001[9]	Cross-sectional	School based	632 adolescents aged 10–19 years; attitudes assessed among subgroup of 281 never smokers	U.S.	Movie smoking status of favorite star
Sargent and Beach 2001[7] Sargent et al. 2002[57]	Cross-sectional	School based	4,919 adolescents aged 10–15 years; attitudes assessed among subgroup of 3,766 never smokers	U.S.	Two-stage direct measure (movie title recog × amt of smoking)
Sargent et al. 2005[65]	Cross-sectional	Random digit dial	6,522 adolescents aged 10–14 years	U.S. (national sample)	Two-stage direct measure (movie title recog × amt of smoking)
McCool et al. 2005[66]	Cross-sectional	School based	3,041 adolescents aged 12–16 years	New Zealand	Perceived frequency of viewing films (cinema and video)
Dalton et al. 2003[3]	Longitudinal	School-based recruitment with teleph F/U	2,603 adolescents aged 10–15 years at inception	U.S.	Two-stage direct measure (movie title recog × amt of smoking)
Distefan and Pierce 2004[67]	Longitudinal	Random digit dial	2,084 adolescents aged 12–17 years at inception	U.S.	Movie smoking status of favorite star

Note. Teleph F/U = telephone follow-up; recog = recognition; amt = amount; S = sociodemographics; P = personality characteristics; Sch = school attachment and function; SI = other social influences (friend and family smoking); PS = parenting style; M = other media/advertising influences.

[a]Statistically significant relation ($p < .05$) between movie smoking exposure and this outcome after covariate adjustment.

[b]Significant correlation (no covariate adjustment).

Validity, reliability	Additional outcome measures	Smoking outcome measure	Measure of association	Association size	Covariate adjustment categories
Not reported	Susceptibility[a]	0	0	0	S, P, Sch, SI, M
Not reported	Intentions	Index	Adjusted proportional odds	1.16[a]	S, Sch, SI
Not reported	Susceptibility[a]	Initiation	Adjusted odds	1.5[a]	S, Sch, SI, M
3-week test–retest (average percent agreement) 92%. Correct recall of titles seen up to 1 year prior = 90%. Recalls having seen a sham title 3%.	Susceptibility[a] Norms—adult[a] Norms—peer Positive expect[a]	Initiation	Adjusted odds	1.7–2.7[a]	S, P, Sch, PS, SI, M
3-week test–retest (average percent agreement) 92%. Correct recall of titles seen up to 1 year prior = 90%. Recalls having seen a sham title <2%.	0	Initiation	Adjusted odds	1.7–2.6	S, P, Sch, PS, SI
Cronbach's alpha = 0.65	Norms—movies[a] Nonchalance—movies[a] Norms—peer[b] Judgment—peer[a] Intentions	0	0	0	S
3-week test–retest (average percent agreement) 92%. Correct recall of titles seen up to 1 year prior = 90%. Recalls having seen a sham title 3%.	0	Initiation	Adjusted relative risk	2.0–2.7	S, P, Sch, PS, SI, M
Not reported	0	Initiation	Adjusted odds	1.3[a]	S, Sch, PS, SI, M

researchers[9] asked adolescents to name their favorite stars and determined smoking status in recently released movies for any star chosen by five or more adolescents. One problem with favorite star measures was the loss of sample size due to the great diversity of stars adolescents chose as "favorite." Adolescents were excluded if their chosen star did not make the top 10 list—51% were excluded in the Distefan study,[56] and 37% were excluded by Dixon[58]—or because fewer than five adolescents chose the star (50% excluded in a study by Tickle and colleagues).[9]

All studies have examined associations between stars' on-screen smoking status and adolescents' attitudes toward smoking. Two used an adolescent smoking measure termed *susceptibility to smoking,* which captures an individual's inability to rule out smoking in the future or to rule out smoking if a peer offers cigarettes; this measure has been found to be a strong predictor of future smoking.[68] Distefan and colleagues[56] determined the favorite movie stars for a random sample of California adolescent smokers. They found that adolescent never smokers who preferred the favorite star of smokers were more likely to be susceptible to smoking. The favorite stars of smokers also were more likely to have smoked on screen and in real life. Tickle and colleagues[9] determined favorite movie stars for a school-based sample of northern New England adolescents. Among never smokers, those choosing stars who smoked were significantly more likely to be susceptible to smoking. For each of these studies, the adjusted odds ratio (OR) was the measure of association with smoking and susceptibility to smoking. For the study by Distefan and colleagues, the adjusted OR was 1.3 for adolescents who chose a favorite star among smokers. For the study by Tickle and others, the adjusted OR was 4.8 if the star had smoked in two or more recent movies. Dixon[58] found no relationship between the on-screen smoking status of favorite stars and intentions to smoke in a sample of Australian adolescent never smokers and experimental smokers.

It is unclear whether the lack of association for intentions observed in Dixon's study in contrast to the U.S. studies is due to a cultural difference in responsiveness to on-screen smoking by stars or due to methodological differences between the studies. For example, the Australian adolescents in Dixon's study may have been less susceptible to the influence of smoking in movies because it did not resonate with their other media exposure in relation to tobacco. Unlike in the United States, most direct forms of tobacco advertising are illegal in Australia. Cross-cultural surveys using identical methods would be necessary to test these hypotheses.

Two studies[9,58] also examined whether the smoking status of favorite stars was linked with adolescent smoking. Overall, the relationship between favorite stars' smoking and adolescent smoking was statistically significant in both cases. Dixon[58] estimated the effect on a smoking uptake index with a proportional odds model (adjusted proportional OR = 1.16). Tickle and colleagues[9] estimated the effect on trying smoking with a logistic regression (adjusted OR = 1.5 [95% confidence interval (CI), 1.01–2.32] for adolescents whose favorite stars smoked in two recent movies and 3.1 [95% CI, 1.34–7.12] for adolescents whose favorite stars smoked in three or more movies). Dixon separated the effect by whether the favorite actor was male or female and the gender of the subject. She found that the association was significant for male actors' smoking, and only in girls. Tickle and colleagues found no such gender-based interactions.

The second approach to measuring exposure to smoking in movies is a two-stage method that directly estimates exposure to smoking in movies.[3,7] The first stage involves

content analysis to determine the amount of smoking contained in the movie sample of interest. Because adolescents cannot be surveyed on all movies, the second stage of this method requires special survey techniques that present the adolescent with a movie title list (Sargent and colleagues[7] chose to include 50 titles) that was randomly selected from the larger content-analyzed sample (table 10.4). This method has the advantage that exposure to smoking in movies can be estimated directly and in an unbiased fashion for all adolescents in the survey sample.

The method relies on adolescents' ability to recall accurately whether or not they had seen a movie, when prompted by the movie title, and has been extensively validated by Sargent and colleagues.[65] As a test of face validity, these researchers evaluated whether box-office success was related to the probability adolescents would say they had seen a movie. In their cross-sectional study, there was a high correlation ($r = -0.73$) between the box-office success of the top 100 movies released the year before the survey and the percentage of adolescents who had seen these films. Two of the movies included were foreign films not released in the United States and served as a validation against false reports. Of the students queried regarding the two foreign films, only about 1% or less reported that they had seen the unreleased movies. These were the two lowest viewing rates reported for the survey. To further evaluate validity, Sargent and colleagues[7] recontacted the 49 students who participated in their longitudinal pilot study. As part of the pilot, students were called once a month for 12 months; they were asked at each interview what movies they had seen in the past week. One year after the final interview, adolescents were asked whether or not they had seen items on a list of 50 movies. Each list contained up to 30 movie titles they reported having seen the previous year (average = 19), 10 false movie titles with real stars, 10 false movie titles with false stars, and other real movie titles to complete a list of 50. As shown in table 10.4, adolescents had excellent recognition of the movies they had seen and were very unlikely to report seeing false movies, even when associated with real actors.

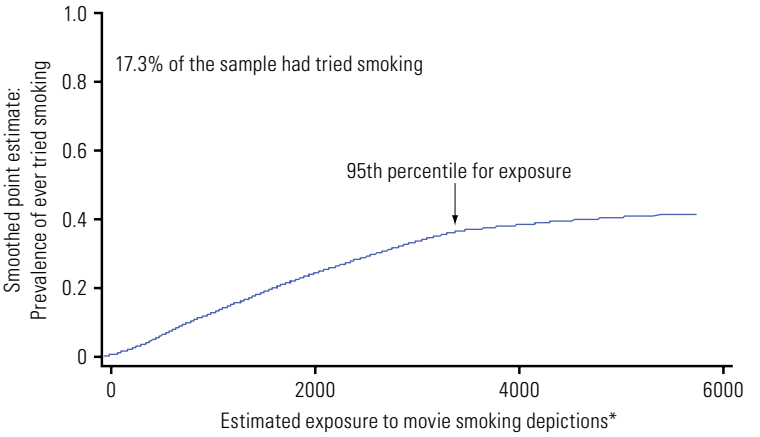
Sargent and colleagues[57] used the direct method described above to estimate exposure to smoking in movies from a sample of 601 popular contemporary movies among 4,919 adolescents in northern New England. The movie exposure measure provided an estimate of lifetime exposure to smoking scenes from the 601 movies. The subjects had seen an average of 30% of the movie sample; in these, they were exposed to an average of 1,160 depictions of smoking in movies (interquartile range 640–1,970).[69] A smoothed curve for the dose response shows a direct linear relationship between higher exposure to smoking in movies and higher rate of smoking through most of the exposure range, with the dose response flattening out past the 95th percentile of exposure (figure 10.2).

Table 10.4 Validity of Adolescents' Recognition of Movie Titles

	Have you seen this movie? (ascertained in 2001)		
Movie category	**Yes**	**No**	**Don't know**
Adolescent reported seeing it in 1999	87.2%	12.6%	0.6%
False movie title, real actors	2.7%	96.7%	0.5%
False movie title, false actors	3.0%	96.4%	0.6%
Other movies	41.1%	54.2%	4.6%

Note. Data derived from research by Sargent, J. D., M. O. Beach, M. A. Dalton, and T. F. Heatherton.

Figure 10.2 Lowess Smoothed Curve Showing Cross-Sectional Relationship between Exposure to Movie Smoking Depictions and Adolescent Smoking Initiation in a Study of Northern New England Adolescents



Note. Based on sample described in Sargent, J. D., M. L. Beach, M. A. Dalton, L. A. Mott, J. J. Tickle, M. B. Ahrens, and T. F. Heatherton. 2001. Effect of seeing tobacco use in films on trying smoking among adolescents: Cross sectional study. *British Medical Journal* 323 (7326): 1394–97.

*From 601 popular contemporary motion pictures.

There was almost no smoking among adolescents with little exposure to movies, and smoking peaked at almost 40% above the 95th percentile. The relationship between viewing smoking in movies and adolescent smoking remained after a broad range of confounders was controlled.[57] The measure of association was the adjusted OR, with the adjusted odds of trying smoking being 1.9 (95% CI, 1.3–2.7), 2.6 (1.8–3.7), and 2.5 (1.7–3.5) for quartiles 2, 3, and 4, respectively, compared with quartile 1. The effect of moving to a higher category of exposure to smoking in movies was similar to the adjusted OR for having siblings who smoke (1.7 [95% CI, 1.3–2.1]); the effect was higher than the effect of having parents who smoke (1.3 [95% CI, 1.1–1.6]) or owning tobacco-branded merchandise (1.2 [95% CI, 0.97–1.5]) and lower than the effect of having peers who smoked (5.1 [95% CI, 4.0–6.4]).

The relationship between exposure to smoking in movies and attitudes toward smoking also was assessed among never smokers in the northern New England sample.[57] Exposure to smoking in movies was associated with susceptibility to smoking, an indexed measure of positive expectations for smoking, and normative beliefs about adult smoking. The measure of association was the adjusted OR. Ranges (for the three higher quartiles) for the effect size for the association with exposure to smoking in movies were 1.2–1.7 for susceptibility to smoking, 1.2–1.4 for the endorsement of adult smoking as normative, and 1.2–1.4 for the endorsement of positive smoking expectations. Exposure to smoking in movies was not associated with normative beliefs about peer smoking, a finding that is consistent with the predominantly adult nature of depictions of smoking in movies. This finding is consistent with content analyses showing that movies rarely depict adolescent characters as smokers.[32]

Sargent and colleagues[65] used the direct method described above to estimate exposure to smoking in movies from a sample of 532 popular contemporary movies among a nationally representative sample of

6,522 U.S. adolescents. Adolescents' level of exposure to smoking in movies was divided into quartiles. Compared with adolescents in quartile 1, the adjusted ORs for having tried smoking were 1.7 (95% CI, 1.1–2.7) for quartile 2, 1.8 (95% CI, 1.2–2.9) for quartile 3, and 2.6 (95% CI, 1.7–4.1) for quartile 4 after controlling for potential confounders. This association between exposure to smoking in movies and smoking initiation was similar in size to the association with parent and sibling smoking (adjusted odds of smoking 1.8 [95% CI, 1.5–2.3] and 2.3 [95% CI, 1.8–2.9], respectively) and held true within broad racial and ethnic categories, and regardless of residential location. The association was lower than the association with peer smoking (OR 3.3 [95% CI, 2.6–4.2]). An adjusted attributable risk fraction indicated that among 38% of adolescents who had tried smoking, exposure to smoking was an independent, primary risk factor for smoking initiation.

In addition to the measures of smoking status and movie title recognition, a third measure of movie influence—used in a single study—asked adolescents their perceived frequency of viewing movies. Using this crude estimate of exposure to on-screen smoking, McCool and colleagues[66] examined a sample of 3,041 New Zealand adolescents. The self-reported frequency of movie exposure was positively associated with perceived smoking prevalence among adolescents and among people in movies, and with nonchalance/apathy concerning smoking in films, when controlling for demographic variables. These researchers did not find a statistically significant association between exposure to film and smoking intentions ("smoking expectations"). However, path analytic techniques revealed that certain smoking belief variables that bore a direct association with movie exposure also were significantly associated with smoking intentions, leading the authors to argue that exposure to movies had an indirect effect on intentions, through its influence on mediating cognitions. Thus, this study, like that of Dixon,[58] failed to find a statistically significant association between the movie exposure measure and smoking intentions. Owing to differing methods in the studies, it is not clear whether the lack of association observed with intentions is because on-screen smoking does not directly affect smoking intentions, whether the two studies that examined intentions used measures of exposure to media that lacked specificity in quantifying actual exposure to on-screen smoking, or whether the tobacco control environments in those countries (Australia and New Zealand) "dampen down" the protobacco effects of on-screen smoking. Intercountry surveys that use identical methods (including more direct measures of on-screen smoking) would be necessary to test these hypotheses.

The cross-sectional surveys not included (because of the lack of controls for confounding) are still interesting, because they suggest that an association between exposure to smoking in movies and youths' smoking also occurs in non-Western countries. However, because of the limitations of these studies, further research is needed to establish more clearly the effect of smoking depicted in movies on adolescents in non-Western countries. A survey of 1,338 Thai adolescents (aged 14–17 years) found that exposure to American movies was related to heightened levels of smoking-related behavior but not to smoking intentions.[6] In addition, a survey of more than 1,700 Hong Kong adolescents indicated that viewing a greater number of movies was significantly associated with being more likely to have ever smoked and with intentions to smoke.[5]

Longitudinal Studies

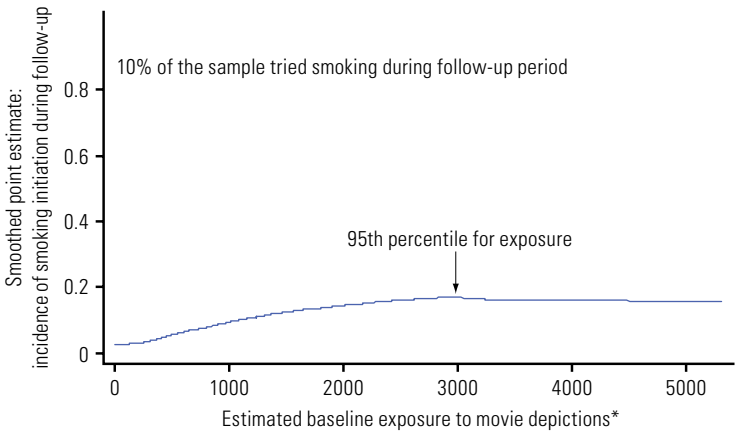
Longitudinal studies attempt to quantify the relationship between exposure to

media and behavior in population-based samples by using multiple-wave survey designs. These studies have the advantage of determining more clearly whether the exposure precedes the adoption of the behavior. Never smokers in two U.S. samples were followed longitudinally to determine which persons initiated smoking in the future as a function of baseline movie exposure.[3,4] A longitudinal study published in 2004 examined the status of smoking in movies by favorite stars (assessed at baseline) as a predictor of trying smoking in the future.[4] This study identified "favorite stars" who smoked in at least two movies during the three-year period prior to the survey. Consistent with Dixon's cross-sectional study,[58] female, but not male, adolescents who chose stars who were smokers were significantly more likely to initiate smoking during the follow-up period.

Initiation of smoking also was determined for never smokers in the study of northern New England adolescents in which exposure to smoking in movies was estimated directly.[3] Figure 10.3 shows a smoothed curve for the dose response. As shown in the cross-sectional sample, there was a direct linear relation between higher exposure to smoking in movies and a higher rate of smoking through most of the exposure range. The dose response flattened past the 95th percentile of exposure. Smoking during follow-up was almost zero for adolescents with minimal exposure to smoking in movies at baseline and approached 20% for adolescents in the highest exposure range.

The effect persisted when controlling for a large set of covariates, including other social influences, advertising influences, personality characteristics (e.g., rebelliousness), and parenting style. The effect size, measured as adjusted relative risk of smoking initiation, with baseline movie exposure categorized into quartiles, was 2.0 (95% CI, 1.3–3.2), 2.2 (95% CI, 1.4–3.4), and 2.7 (95% CI, 1.7–4.3) for quartiles 2, 3, and 4, respectively, compared with quartile 1. This range of relative risks was similar in magnitude to the relative

Figure 10.3 Lowess Smoothed Curve Showing the Longitudinal Relationship between Exposure to Movie Smoking Depictions and Adolescent Smoking Initiation in a Study of Northern New England Adolescents



Note. Based on sample described in Dalton, M. A., J. D. Sargent, M. L. Beach, L. Titus-Ernstoff, J. J. Gibson, M. B. Ahrens, J. J. Tickle, and T. F. Heatherton. 2003. Effect of viewing smoking in movies on adolescent smoking initiation: A cohort study. *Lancet* 362 (9380): 281–85.

*From 601 popular contemporary motion pictures.

risk of smoking associated with having parents who smoke (1.6 [95% CI, 1.2–2.0]), and higher than the relative risk associated with friends' smoking (1.1 [95% CI, 0.87–1.5]) or ownership of tobacco-branded merchandise (1.1 [95% CI, 0.85–1.5]). It is also notable that the estimates of the effect of viewing smoking in movies on smoking initiation in both longitudinal studies were almost identical to estimates obtained for the cross-sectional samples. This finding suggests that exposure to smoking in movies and its effect on adolescent smoking persist over time.

Taken together, these cross-sectional and longitudinal studies provide strong support for a direct association between exposure to smoking in movies and attitudes toward smoking and smoking initiation. The cross-sectional study of attitudes among never smokers[57] suggests that exposure to smoking in movies enhances perceptions about the utility of smoking and increases adolescents' intentions to try smoking. The longitudinal studies provide evidence of a temporal association—that is, exposure to on-screen smoking precedes smoking behavior among adolescents. The strongest associations have been demonstrated in studies using a direct measure of exposure. Cigarette smoking by a favorite movie star has a weaker association, probably because tobacco use by favorite stars is not a true measure of exposure to all smoking depicted in movies but instead taps the much narrower effect mediated by the adolescent's identification with his or her favorite star. If this is the case, the gender findings in the studies by Dixon[58] and Distefan and colleagues[4] indicate that, in relation to movies, identification processes are more important in determining smoking onset for girls than they are for boys.

Experimental Studies

Experimental research enables media content variables of interest (e.g., smoking versus nonsmoking footage) to be manipulated and allows controlled assessment of audience reactions to such content. This method overcomes a key limitation of cross-sectional studies—the inability to control for unknown or unmeasured confounders. In experimental studies, randomization of subjects to exposure categories is used to control for known and unknown confounders. The limitations of experimental studies are that the viewing conditions tend to be nonnaturalistic and it generally is feasible to assess only short-term responses to relatively brief media exposure. Nonetheless, these studies complement the cross-sectional studies and provide further insights into the impact on audiences of movie depictions of tobacco and tobacco use.

The PubMed and PsycINFO searches reported under cross-sectional studies yielded two experimental studies[42,70] and two quasi-experimental studies[71,72] assessing reactions to depictions of tobacco in movies. The latter two studies are best classified as quasi-experimental, as they assessed naturalistic exposure to whole movies among actual cinema audiences.[71,72] The strength of these studies was their larger audience sample size relative to the other studies. Their limitation was that viewers were not randomly allocated to conditions. The authors identified two further peer-reviewed experimental studies: one published[73] and another conducted as part of a doctoral dissertation.[58]

Table 10.5 summarizes the methods and findings of the respective experimental studies assessing reactions to on-screen portrayals of tobacco. Most designs of the studies included an experimental manipulation that compared audience responses to movie footage depicting smoking (intervention) with responses to movie footage that did not depict smoking (control). Some studies included further experimental manipulations, such as varying

Table 10.5 Summary of the Methods and Results of Experimental Studies Assessing Responses to On-Screen Tobacco Use

	Methods				
Study	**Subjects**	**Subgroups examined**	**Country**	**Stimulus movie**	**Experimental manipulation**
Jones and Carroll 1998[73]	51 college students	*n* = 40 females, *n* = 11 males	Australia	Video clips (role plays, not actual movie footage)	Smoking compared with nonsmoking footage
Pechmann and Shih 1999 (study 1)[42]	607 ninth graders, nonsmokers	—	US	Scenes from *Reality Bites* and *Wild at Heart*	Smoking compared with nonsmoking footage x high compared with low positive arousal elicited by scenes
Pechmann and Shih 1999 (study 2)[42]	232 ninth graders, nonsmokers	—	US	Whole movie *Reality Bites*	Smoking compared with nonsmoking footage x prefilm antismoking advertisement compared with no advertisement
Gibson and Maurer 2000[70]	120 college students	*n* = 36 smokers, *n* = 84 nonsmokers	US	20-minute clip of *Die Hard*	Smoking, nonsmoking footage
Hines et al. 2000[74]	151 college students	—	US	6 scenes from 6 popular films	Smoking compared with nonsmoking footage
Dixon et al. 2001[71]	383 adult cinema patrons[a]	*n* = 192 who completed follow-up interview within 2 weeks of seeing movie	Australia	Whole movie	Antitobacco message *(The Insider)* compared with control film *(Erin Brokovich)*
Edwards et al. 2004[72]	2,038 female adolescent cinema patrons[a]	*n* = 186 smokers, *n* = 1,852 nonsmokers	Australia	Whole movies (depicting smoking)	Prefilm antismoking advertisement compared with no advertisement
Dixon 2003[58]	374 seventh and eighth graders	—	Australia	2 x 5 minute clips from popular movies	Smoking compared with nonsmoking footage of different character types

Note. – = variable not assessed; ns = variable not significantly affected by experimental manipulation.

[a]Quasi-experimental study, using subject's self-selected cinema exposure.

*$p < .05$. **$p < .01$. ***$p < .001$. Variable significantly affected by experimental manipulation (lowest p value achieved for variables in this response category).

the level of emotional arousal for the sample movie footage (study 1)[42] or varying the social characteristics of the characters in the movie footage.[58] Two studies assessed whether exposure to an antismoking advertisement (intervention) before viewing a movie that featured smoking promoted different audience responses compared with responses to viewing a movie without such an advertisement (control). One study assessed whether including antitobacco content within the movie[71] (intervention) produced a different audience response than the response to viewing a movie that did not contain such content (control). Most of the studies used actual movie footage or whole movies for their stimulus material, often with some editing performed to achieve the experimental manipulation. The exception, the study by Jones and Carroll,[73] used video clips of role plays produced specifically for the study. For studies using actual movie footage as stimuli, the strength is that

Response variables							
Ratings of the movie	**Ratings of characters**	**Ratings of actors**	**Beliefs about smokers**	**Beliefs about personally smoking**	**Personal intentions to smoke**	**Arousal**	**Beliefs about the tobacco industry**
—	** (females) ns (males)	—	—	—	—	—	—
—	—	—	**	*	—	**	—
*	**	—	**	*	*	**	—
—	* (smokers) ns (nonsmokers)	* (smokers) ns (nonsmokers)	* (nonsmokers)	—	ns (nonsmokers)	—	—
—	***	—	—	—	*	—	—
—	—	—	—	—	* (completed follow-up within 2 weeks of movie)	—	***
ns (smokers) *** (nonsmokers)	—	—	—	—	* (smokers) ns (nonsmokers)	—	—
—	**	—	ns	*	ns	—	—

the stimuli represent those the viewers might be exposed to in the "real world." The disadvantage of this method is that to achieve the intended experimental manipulation (e.g., smoking versus nonsmoking footage), it is not always possible to obtain directly comparable control footage.[58] Conversely, studies using nonprofessionally produced footage can more readily produce stimuli that are identical, with the exception of the experimental manipulation.[73] However, the footage is of nonprofessional quality, limiting generalization of the results to the likely effects on audiences of "real world" movie viewing.

Most of the studies consisted of a posttest-only design in their assessment of the audience's tobacco-related attitudes, beliefs, and intentions. Only one[71] used pretest and posttest assessments of smoking-related beliefs, which would have increased the power to detect the effects of the media

manipulation within subject analyses. However, several of the studies did include a pretest assessment of participants' smoking status and demographic characteristics. This information enabled examination of responses as a function of key audience subgroups or inclusion of these variables as covariates in data analyses.[70,74]

The main methodological difference between the studies related to their respective sample sizes. The smallest audience sample consisted of approximately 40 subjects, with about 20 viewers per condition.[73] The largest audience sample consisted of 2,038 subjects, with about 1,000 viewers per condition.[72] Despite these marked differences in sample size, even the smaller studies found some statistically significant effects of the experimental manipulation on viewers' responses.

To help inform the assessment of the effect sizes of these experimental studies, the authors examined meta-analyses of effect sizes observed in experimental research assessing the effects of violent media depictions on viewer aggression[75] and of thin media models on body dissatisfaction.[76] The meta-analysis of media violence studies found a mean effect size for laboratory experiments of approximately 0.25 (95% CI, 0.23–0.28) and for field experiments approximately 0.2 (95% CI, 0.15–0.25). The absolute values for effect sizes in the body image studies were of a similar magnitude. The mean effect size across studies was –0.31 (95% CI, –0.40 to –0.23). (The positive direction of the effect in the violence studies reflects increased aggression following exposure to violent movie content. The negative direction of the effect in the body image studies reflects more negative body image perceptions following exposure to thin models in the media.)

To determine the effect sizes observed in experimental research assessing audience reactions to smoking in films, power calculations were performed, using the results observed in studies in which significant effects of the experimental manipulations were found on smoking-related beliefs and intentions, with the use of *Power and Precision* software. To perform such calculations comparing mean response scores postintervention, it was necessary to specify means, standard deviations, and cell sizes for each experimental condition. This process was possible for all of the experimental studies, except for two that did not publish standard deviations with their results.[42,70] The effect sizes achieved were within a range similar to those observed in the above meta-analyses of media experiments on other health topics (absolute values 0.1 through 0.8). The strongest effect size, 0.8 (95% CI, 0.41–1.19), was observed in the study by Jones and Carroll[73] for the effects of a video character's on-screen smoking status on perceptions of that character's social characteristics. According to Cohen's[77] effect size conventions, this observation would be viewed as a "large" effect for social science research. The effect sizes observed for more self-referent beliefs about smoking (e.g., intentions) tended to be "small" (range: 0.1–0.3), as might be expected for studies assessing reactions to a brief media exposure. However, it is theoretically plausible that recurrent, naturalistic exposure to movie images of smoking have a larger cumulative effect on viewers' propensity to smoke, and the findings of cohort studies[3,4] are consistent with this hypothesis.

Effects of On-Screen Smoking on Viewers' Smoking-Related Beliefs

Theories of media influence predict that role models bearing favored social attributes are likely to be especially persuasive.[44,45] Several experimental studies have assessed whether stars who smoke on screen promote prosmoking beliefs among audiences.[42,70,74]

Results of experimental studies suggest that viewing movie characters who are smoking enhances viewers' perceptions of how socially acceptable smoking is. Pechmann and Shih[42] found that exposure to movie scenes of popular, young stars smoking (versus nonsmoking) prompted adolescent viewers to report that adolescent smokers had higher social stature. This finding was replicated in a second experiment that assessed reactions to a whole movie *(Reality Bites)* depicting smoking compared with an edited version of the movie that excluded smoking depictions. Similarly, Gibson and Maurer[70] found that, among nonsmoking college students, viewing a movie clip of a leading male character smoking (versus a comparable clip in which this character does not smoke) resulted in a greater willingness to become friends with a smoker. However, further analyses revealed that this effect was most marked for viewers low on "need for cognition" (a trait predicted to render someone more susceptible to persuasion via the peripheral route).[78] This finding suggests that some people may be more susceptible than others to the persuasive impact of movie depictions of smoking.

Dixon[58] found evidence suggesting that adolescents who watched footage of movie adult characters smoking on screen perceived adult smoking prevalence in the "real world" to be higher than did adolescents who watched footage of nonsmoking movie characters. This effect occurred irrespective of the social characteristics of the on-screen smokers that students viewed. Together, these findings suggest that movie depictions of smoking may promote perceptions that smoking is a normative behavior in the real world. These findings are of concern, since social learning variables, "especially peer smoking and approval, prevalence estimates, and offers/availability"[79(p.1171)] have been found to be strongly predictive of smoking onset.

Exposure to on-screen smoking also has been found to influence viewers' beliefs about the social consequences of personal smoking. Pechmann and Shih[42] digitally changed the image frame to edit smoking out of the 1990s film *Reality Bites*. Comparing adolescents' responses to the original versus the nonsmoking version of the movie, they found that adolescent never smokers exposed to the original version showed enhanced perceptions of how their social stature would be viewed by others if they were to personally smoke. The video manipulation had no significant effects on participating adolescents' perceptions of how popular, vital, or poised they would look if they were to smoke. Dixon[58] found that beliefs about the social consequences of personal smoking were affected differentially, depending on the social characteristics of the on-screen smoker. Among adolescent viewers, attractive, high-status characters who smoked on screen promoted positive beliefs about the benefits of smoking. However, unattractive, low-status characters who smoked on screen detracted from such beliefs.

Pechmann and Shih[42] also found that exposure to the original version of *Reality Bites* promoted increased personal intentions to smoke among adolescent never smokers. For older viewers, two studies (with sample sizes of 150 or more) found a significant effect of on-screen tobacco depictions on personal intentions to smoke.[71,74] However, another study (examining a smaller subgroup of 84 nonsmokers) did not find such an effect.[70] Hines and colleagues[74] found that college students who viewed movie scenes in which the main characters smoke were more likely than those who viewed nonsmoking scenes to indicate a likelihood to smoke in various situations in which smoking is likely to occur. This effect persisted with controls for the smoking status of the participant. Furthermore, among male viewers who were regular or occasional smokers, the

smoking film footage also promoted a higher current desire to smoke. In contrast, the study by Gibson and Maurer,[70] with less statistical power, found that nonsmoking college students were no more likely to report intentions to smoke in the future after exposure to movie footage of a leading character smoking (versus nonsmoking). However, the direction of the trend in the overall cell means was toward smoking scenes promoting slightly higher scores on intentions. Because the sample size for this analysis was small ($N = 84$), it is likely that this study had insufficient power to detect a small or moderate effect size, if it existed.

Dixon and colleagues[71] found that viewing a movie that portrayed the tobacco industry in a negative light and included information on the negative health consequences of smoking within the story *(The Insider)* promoted a short-term reduction in intentions to smoke among adult smokers and former smokers. Content analyses suggest that portrayal of information about the negative health consequences of smoking is a rare phenomenon. Experimental research indicates, however, that inclusion of such information in a movie can promote an antitobacco message. Dixon and colleagues[71] also found that viewing *The Insider* promoted more negative views among audience members of the tobacco industry's business conduct. These results have some parallels with findings of evaluations of public responses to antitobacco media campaigns exposing industry manipulation. Surveys indicate that cigarette consumption declined in association with California's Proposition 99 media campaign.[80] Moreover, evaluation results for Florida's "truth" campaign advertisements show evidence of a decline in youth smoking and a relationship between youth smoking behavior and changes in youth attitudes toward the tobacco industry's manipulation.[81] Chapter 12 on the effectiveness of mass media in discouraging smoking includes details of these antismoking campaigns.

Pechmann and Shih[42] found that showing youth an antismoking advertisement immediately before viewing a movie depicting popular young stars smoking inoculated them against the prosmoking influence of the movie footage. The advertisement also generated more negative thoughts toward the leading movie characters, but it did not detract from the ratings of the movie's overall action or storyline, or from the likelihood of recommending it to a friend. In fact, those who saw a movie preceded by an antismoking advertisement rated the movie storyline more favorably than those who saw a movie without such an advertisement. These findings are of great practical importance in providing evidence concerning the efficacy of one possible strategy for reducing the negative impact on-screen smoking has on youth audiences. That is, screening an antismoking advertisement before the movie immunized young viewers against the prosmoking effects of the movie, without detracting from their overall enjoyment of the movie.

This approach was subsequently evaluated using a quasi-experimental study of 2,037 female adolescent moviegoers in Australia who had self-selected to see movies depicting smoking.[72] The intervention group who viewed an antismoking advertisement before the movie was compared with a control group who did not view an antismoking advertisement screened before the movie. Among nonsmoking viewers, those who saw an antismoking advertisement before the movie showed stronger disapproval of smoking by characters in the movie. Among viewers who were current smokers, those who saw the antismoking advertisement showed significantly reduced intentions for future smoking. The antismoking advertisement did not affect nonsmokers' intentions to smoke. Most nonsmoking subjects (95%) in both conditions reported they were unlikely to be smoking at this time next

year. The results of these two studies suggest that screening antismoking advertisements before movies depicting smoking is an effective strategy for reducing the prosmoking persuasive effect of on-screen tobacco use by movie stars.

Effects of Smoking Depictions on General Reactions to Movies

In discussing audience reactions to smoking in movies, it also is relevant to examine responses from the perspective of audiences' entertainment experience. Evidence is mixed as to whether audience perceptions of movie characters are affected by their on-screen smoking. Pechmann and Shih[42] found that, among adolescent never smokers, there were no significant differences in the number of negative, neutral, or positive thoughts about the leading characters in a movie as a function of whether scenes of their smoking were viewed. Similarly, Gibson and Maurer[70] found that, among college students who were nonsmokers, viewing movie scenes of a leading male character smoking (versus nonsmoking) did not markedly affect their ratings of that character. However, among college students who were smokers, viewing such movie scenes led them to rate the male actor and the character he played as more likeable when he smoked, compared with when he was not depicted as a smoker. Reactions appear to vary, however, depending on the movie character's gender—smoking by females may be associated with negative character traits. Hines and colleagues[74] found that female characters depicted as smokers were rated less favorably on a range of social characteristics (e.g., attractive, sexy, popular), but they found no such effects for male characters. Smoking by female characters also led audience members who were occasional smokers or nonsmokers to perceive themselves as less similar to the character. Jones and Carroll[73] found that young women who viewed a young female smoking rated her as more outgoing, more sophisticated, not as easy to manipulate, and less emotional about breaking up with her boyfriend than those women who viewed a control video in which the young female did not smoke. In a study examining reactions to different movie character depictions of smokers, Dixon[58] found that adolescents associated smoking by female antagonists with low social status. Ratings of the male characters did not differ in this way. Together, these results suggest that audience members may identify more with movie characters of similar smoking status. Moreover, on-screen smoking by female characters appears to carry some negative social connotations.

Pechmann and Shih[42] found that, in more general reactions to on-screen smoking, viewing movie scenes depicting smoking evoked higher levels of positive arousal than did viewing similar scenes without smoking. Despite the effects of smoking on viewers' emotional arousal, Pechmann and Shih[42] found that adolescents' ratings of a movie's action or storyline or their willingness to recommend the movie to friends was no different for a version of the movie that edited the smoking out of the scene, compared with the original version of the movie. This finding has relevance to filmmakers in suggesting that excluding smoking from films does not detract from their overall appeal. This argument is further corroborated by Dalton and colleagues.[32] They found that the amount of tobacco use depicted in movies is not significantly associated with box-office success. Pechmann and Shih[42] also found that, for adolescent viewers who were shown an antismoking advertisement before viewing a movie depicting smoking, the effect of smoking depictions in the movie on arousal, perceptions of a smoker's social stature, and personal intent to smoke were eliminated. This finding and those of Edwards and colleagues[72] imply that

showing antismoking advertisements before movies with smoking could modify the effect of prosmoking movie depictions on the audience's smoking behavior.

Conclusions Concerning Media Effects Research

The findings from experimental studies contribute to the understanding of how vicarious learning effects may occur in response to smoking behavior symbolically modeled in movies. Along with the results of cross-sectional and longitudinal population-based studies, experimental research indicates that images of smoking in film can influence people's beliefs about social norms for smoking, beliefs about the function and consequences of smoking, and ultimately their personal propensity to smoke. Certain movie depictions may be more likely than others to promote prosmoking beliefs. Audience members' responsiveness to such imagery may vary as a function of their personal characteristics (especially smoking status and gender). Experimental studies found many statistically significant effects—of a similar magnitude to the effects observed in experimental media research on other health topics—for only brief exposure to movie images of smoking.

Across the different study designs used to assess audience responses to on-screen tobacco use, there is considerable convergence in findings. Protobacco film content has been found to promote prosmoking beliefs and intentions in both experimental and cross-sectional studies. Exposure to on-screen smoking has been associated with smoking behavior in cross-sectional studies and predictive of smoking behavior in longitudinal studies. A similar convergence of findings across different study types was observed in a meta-analysis examining the effects of media violence on aggression.[75]

Tobacco Content in Other Media

Television

Television began a close relationship to the tobacco industry in the 1950s. As it became clear that smoking was a cause of cancer, and with the elimination of cigarette advertising in the broadcast media in 1971, tobacco use also dropped out of network television in the United States. This resulted, in part, from the Public Airways Act.[82]

Several authors have analyzed content samples of prime time television programming for smoking depictions. Breed and De Foe's[83] content analysis of prime time U.S. television dramas and situation comedies produced between 1950 and 1982 found a steady drop in the use of cigarettes over the three decades. In the period before the release of the first Surgeon General's report (1950–63), nine times more cigarettes were used per hour than for the season 18 years later. Several authors have found that television smoking is more common in dramas than in other genres.[83,84] Table 10.6 lists the number of smoking acts per hour observed in samples of television dramas selected for content analyses of television programming. The studies used similar coding methods but differed slightly in their methods of sampling television content. Taken together, the results suggest that the rate of smoking in prime time television dramas declined dramatically from 1950–63 (4.52 smoking acts per hour) to 1981–83 (0.35 smoking acts per hour). However, studies conducted in 1984 and 1993 found slightly higher smoking rates (1.01 and 1.20 smoking acts per hour, respectively). A content analysis of television drama aired on Japanese television between 1995 and 1996, however, found a rate of smoking depiction (4.22 per hour) similar to that found on U.S. television in the 1950s.[85]

Table 10.6 Number of Smoking Acts per Hour of Television Drama for Different Content Analysis Studies Conducted in the United States

Year of programming	Smoking acts per hour	Study
1950–63	4.52	Breed and De Foe 1984[83]
1964–70	2.43	
1971–77	0.70	
1981–82	0.35	
1976–77	0.71	Fernandez-Collado et al. 1978[86]
1976–77	2.19	Greenberg et al. 1984[87,a]
1977–78	2.66	
1984	1.01	Cruz and Wallack 1986[88]
1993	1.20	Hazan and Glantz 1995[89]
1998–99	Not reported	Christenson et al. 2000[90]

[a]Unlike the other studies, this one did not restrict its sample to prime time television.

Christenson and colleagues[90] analyzed content of 168 episodes of top-rated television dramas and situation comedies broadcast from 1998 to 1999. Tobacco was used in 19% of episodes. Comparing these results with those obtained in their content analysis of movies,[27] they concluded that young viewers were considerably less likely to view smoking on television than in movies.

Gerbner and colleagues[84] found that, in a 10-year sample of prime time dramatic television and a 3-year sample of television commercials, the prevalence of smoking among major television characters was quite low: 11% of males and 2% of females smoked. Similarly, Cruz and Wallack[88] found that smoking was more prevalent among male than female television characters. Fernandez-Collado and colleagues[86] found that in a sample of prime time dramatic television from 1976 to 1977, fewer smoking incidents occurred per hour during television programming with the largest child audiences. Similarly, Christenson and others[90] found that in television programs from 1998 to 1999, tobacco was used less frequently in TVG-rated episodes (6%)

Smoking Shifts to the Bad Guys

Social trends can influence not only the quantity of tobacco portrayal on television but also the context in which it is portrayed. For example, Breed and De Foe observed a shift over time in the manner of portraying smoking on television. Between 1950 and 1963, "all kinds of adults—heroes and heroines as well as villains—were seen smoking."[a(p.263)] Between 1971 and 1982, however, the typical smokers on television were villains or insecure characters; by the 1980s, scenes parodying cigarette smoking began to emerge. Cruz and Wallack, however, found that in prime time television in 1984, the majority of male smokers (70%) were in strong and enduring roles, with a minority viewed as antagonists.[b]

[a]Breed, W., and J. R. De Foe. 1984. Drinking and smoking on television, 1950–1982. *Journal of Public Health Policy* 5 (2): 257–70.

[b]Cruz, J., and L. Wallack. 1986. Trends in tobacco use on television. *American Journal of Public Health* 76 (6): 698–99.

compared with TVPG-rated (20%) and TV14-rated (24%) episodes. In their total sample of television episodes, 8% of adult major characters used tobacco and no characters younger than 18 years of age were portrayed smoking. Byrd-Bredbenner and colleagues[91] found that during 1998 prime time children's television programming, depiction of tobacco was rare (shown in 2% of scenes), typically portrayed as a background activity performed by adults, mostly men.

Tobacco portrayal in prime time television is less common than in movies. Only a minority of portrayals (23%) express negative statements about smoking, almost none (less than 1%) mention or portray negative consequences of smoking, and none of the major characters depicted as smokers made on-screen attempts to quit smoking.[90] These content analyses relate primarily to television programming in the United States. The studies document some smoking content but not to the extent seen in movies.

Three studies have examined the association between television viewing and smoking. One examined the association between viewing and smoking initiation for a sample of U.S. adolescents.[92] The authors examined smoking initiation among 592 adolescent never smokers enrolled in the National Longitudinal Study of Youth and for whom data on television viewing were available at baseline (1990, when subjects were 10–15 years of age). Initiation of smoking during the following two years was examined as a function of baseline television viewing, controlling for several socioeconomic and demographic factors (ethnicity, household poverty, marital status, number of children in the household), maternal factors (education, measured intelligence, employment), and child factors (gender and baseline child aptitude test scores). Children who watched more than five hours of television per day (above mean exposure) had significantly higher adjusted odds of smoking initiation (adjusted OR of 5.99) during the follow-up observation period than did those who watched less than two hours per day. A cross-sectional survey of adolescent smokers in Belgium found a positive, curvilinear association between television viewing volume and smoking volume; the relationship was stronger for higher levels of viewing.[93] This association occurred in a multivariate regression analysis that controlled for other predictors of adolescent smoking. Adolescent smokers who watched five or more hours of television per day smoked 60–147 more cigarettes per week than those who watched one hour or less. Another longitudinal study of a New Zealand birth cohort[94] found an association between higher exposure to television during childhood and smoking in young adulthood. This study controlled for childhood socioeconomic status and parental smoking.

These studies suggest the possibility that television viewing could be linked with smoking initiation and maintenance. If a social influence effect is assumed, it is not clear how much of the effect is mediated by smoking seen in television programming versus smoking depicted in televised movies, because movies comprise a substantial share of television programming. Additionally, in the longitudinal study by Dalton and colleagues[3] on the relationship between exposure to smoking in movies and adolescent smoking initiation, self-report measures of exposure to daily television were not associated with smoking initiation after controlling for other social influences (exposure to smoking in movies, friend smoking, family smoking). Therefore, the argument for a social-influences link between exposure to smoking in television programming and adolescent smoking is not as well established as is the link for exposure to smoking in movies.

Popular Music

Roberts and colleagues[27] analyzed the content of lyrics for the 1,000 most

popular songs from 1996 and 1997. They found tobacco references were relatively uncommon in song lyrics (3% of songs). Tobacco references occurred more frequently in rap song lyrics than in other musical genres (7% of rap songs compared to 4% of alternative rock songs and 2% or less of other music genres). Similarly, a content analysis by DuRant and others[95] of a sample of music videos (N = 518) televised during 1994 found that rap music videos (30%) were most likely to depict smoking, followed in order by adult contemporary (23%), rock (22%), country (12%), and rhythm and blues (11%). A small number of videos (N = 11) contained 10 or more instances of smoking behavior. The results in these two studies suggest that visual references to tobacco in popular music videos are more common than verbal references to tobacco in popular song lyrics. However, because these studies used different sampling methods, the results are not directly comparable.

DuRant and colleagues[95] found that portrayal of tobacco use was more common in music videos televised on MTV (26%) than on other networks (Video Hits 1 [VH1], 23%; Black Entertainment Television, 17%; and Country Music Television, 12%). Few videos contained branded tobacco advertising, and most of those were on MTV (N = 4) and VH1 (N = 3). In music videos that portrayed smoking, the lead singer was twice as likely to smoke as a background singer or musician. Smokers in music videos were mostly young adults (76%) and were more commonly Caucasian and male. Smoking scenes tended to have a positive emotional tone, but they were no more likely to contain sexual content than were videos that did not depict smoking.

Magazines

Numerous studies have examined the amount and nature of tobacco-related content in high-circulation magazines, particularly magazines for women and young people. Recognizing that magazines can present both positive and negative images and messages about smoking, these studies have focused on two key questions. First, what coverage do magazines give to smoking and health, and is this coverage related to whether they accept tobacco advertisements? Second, what is the nature and extent of positive images of smoking in editorial material, such as fashion pictures? Both questions are addressed below, and further discussion of the first question appears in chapter 9 in the section "Tobacco Industry Influence on News Reporting."

Between 1967 and 1979, coverage of the health hazards of tobacco smoking in major women's magazines in the United States was generally uncommon. Whalen and colleagues[96] found that editors of such magazines frequently encouraged health writers to avoid the subject of tobacco. Those magazines that did run frequent articles on smoking and health did not accept tobacco advertising. Warner and others[97] found, in a sample of 99 U.S. magazines published between 1959 and 1996, strong statistical evidence that cigarette advertising in magazines was associated with diminished coverage of the hazards of smoking—especially in magazines directed toward women. These studies' findings suggest that financial dependence on tobacco industry advertising may have influenced editorial policy. In the United States, between 1996 and 1999, popular general interest and health magazines covered tobacco less than other health topics, and this discrepancy was more marked in the latter group.[98] The authors argue that the relatively low coverage of tobacco and its hazards presents readers with a skewed account of the importance of smoking as a threat to their health relative to other health issues.

A survey of the tobacco policies of the most widely read European women's magazines published in 1996 found that most of the magazines accepted cigarette advertisements, but a minority reported

having published a major article on smoking and health.[99] Magazines that accepted tobacco advertising were slightly less likely to have covered smoking and health compared with magazines that did not accept tobacco advertising. Other apparent obstacles to coverage of the health effects of smoking mentioned by editors were their opinions about smoking, their perceptions of their readers, a perception that the smoking story had been "done," or, in some countries, a general ignorance of the subject. In contrast, nearly half of the magazines allowed editorial images of smoking, such as models smoking on fashion pages and celebrities smoking in feature articles.

In a study of popular Australian magazines, Chapman and colleagues[100] found, after the introduction of a ban on tobacco advertising in print media in 1991, an initial increase in incidental depictions of smoking (6 months after the ban), followed by a reduction in such depictions in the subsequent 18 months. The authors found that photographs of smoking were infrequent in Australian magazines, with a mean of one incidental depiction of smoking per 147 pages. These findings indicate that, in Australian magazines produced in the context of bans on paid tobacco advertising, incidental magazine content presents nonsmoking as normative. In contrast, a study of cigarette advertising and health aspects of smoking in British magazines, before and after the introduction of a voluntary restriction on cigarette advertising in 1986, found that while the proportion of magazines accepting cigarette advertising decreased, the new restrictions did not cover the most popular magazines; thus, protobacco content remained prevalent in the highest circulation magazines.[101] Furthermore, editorial coverage of the health aspects of smoking was low and did not increase following the voluntary ban.

A content analysis of the most popular British young people's style magazines published in 1999 found major differences between young women's and young men's magazines.[102] Young men's magazines carried considerably more tobacco advertising and positive images and coverage of smoking in editorial pages than did young women's magazines. In addition, very few young men's magazines carried any smoking-or-health coverage. Editorial images of smoking were most frequent in features about personalities, such as an interview accompanied by a picture of the celebrity smoking. Second most common were smoking images in fashion pictures that included both posed as well as pseudo "real-life" fashion shots. Similar, though less prevalent, were smoking images in "slice of life" items about "real" people out having fun, for example, at nightclubs and music events. The amount of prosmoking coverage in the three most widely read young men's magazines in 1999 averaged more than eight pages per issue, an increase of more than 400% since 1991.[102,103]

Content analyses found that print media coverage of cigars also increased during the 1990s. In a sample of high-circulation U.S. newspapers and magazines, articles focused on cigars increased substantially between 1987 and 1997.[104] The articles tended to portray cigars and the tobacco industry favorably but rarely mentioned the health risks of cigar smoking. Between 1992 and 1998, a significant upward trend occurred in cigar images and images of women smoking cigars in U.S. women's magazines with the highest readership of adolescent girls.[105] Wenger[104] found that cigar "lifestyle" magazines recurrently presented content that associated cigars with business stories, social events (including fundraisers for charities), and celebrities. Of the celebrities and public figures quoted or described in the articles, most (87%) were portrayed as having favorable attitudes toward cigars. Only 1% of cigar-focused articles focused primarily on the health effects of cigars. Cigar use was

presented as normative behavior and as a key element of a successful lifestyle.

The second question addressed in research on tobacco-related content in magazines is the nature and extent of positive images of smoking conveyed in fashion pictures. Magazines have a potentially important influence on the social image of smoking, as they often have high readerships; are targeted toward and therefore tailored to appeal to different audiences on the basis of age, gender, ethnicity, and socioeconomic status; and are printed so they remain available for longer periods than other media (as reflected in the often high ratio of readership to circulation). Of particular concern are magazines aimed at young people. As discussed earlier, adolescence is a period of considerable change and transition during which young people engage in the active construction of their adult identities, not only about who a young person wants to become, but also how an image can be projected in particular social contexts.[106] Young people's magazines, by promoting certain styles, brands, and images, not only help create the latest fashions but define what and who is "in." To appeal to young readers, these magazines attempt to embody attitudes and values by incorporating them into fashion spreads and articles that tap into and articulate what it means to be a young person today. Thus, it is theorized, both the extent to which magazines show smoking images and the types of such images may be important in influencing young people's perceptions of the desirability of adopting a smoking identity and consequently affecting their behavior. So far, however, very few studies have explored how young people engage with magazine images of smoking or the effect of such images.

Two British studies used different methods to explore this question. A study by Amos and colleagues examined whether young people perceived smoking and nonsmoking images differently.[107] Young people rated perfectly matched (other than the presence or absence of a cigarette) smoking and nonsmoking fashion pictures taken from youth and style magazines on a range of attributes. The study found that the presence of a cigarette affected how the pictures were rated and that the nature of this effect differed between pictures. In general, the smoking images were rated as being more "druggy," wild, and depressed. Identical nonsmoking images were rated as being more healthy, rich, nice, fashionable, slim, and attractive. On the surface, the smokers' attributes were negative, but some of the attributes represented images that young smokers aspired to and admired. Smokers, especially males, identified more strongly with the smoking images and attributes than did nonsmokers.[107]

The second study, by MacFadyen and colleagues, used focus groups of first-year college students, all smokers, to explore perceptions of smoking images in youth style magazines and the relationship between these perceptions and their own smoking images and identities.[54] The research found the students perceived this imagery to be, on the whole, attractive, sociable, and reassuring. There was considerable synergy among the image of smoking, the personality of the magazines, and respondents' self-images. The most popular magazines had personalities that were similar to the students' image of smoking—carefree hedonism, risky behavior, and antipolitical correctness. This finding suggests that the display of smoking in these magazines was likely to reinforce positive perceptions of smoking and contribute to the belief that smoking is a normative and important part of student culture.

The findings by MacFadyen and colleagues are similar to those from an Australian study that used focus groups to explore secondary school (both smoker and nonsmoker) students' perceptions of smoking images in magazines and films.[47] Smoking in

magazines and films was perceived as normal and acceptable. Additionally, the young people felt that most of the images used in the study portrayed smoking positively in terms of mood attributes, such as being in control or confident. Such positive images of smoking portray smoking in a way that young people interpret as being a normal part of life.

Internet

Hong and Cody[108] conducted a content analysis of protobacco Web sites (N = 318). These sites were predominantly e-commerce sites (50%), followed by hobby/recreation sites (19%), erotic/fetish sites (15%), other tobacco-related sites (8.8%), corporate sites (5.7%), and smoker's rights/lobbyist sites (2.5%). Ribisl and colleagues[109] also conducted a content analysis of protobacco Web sites (N = 30 sites). However, their sample excluded sites for individuals or organizations that manufacture or sell tobacco products. Despite the different sampling criteria used in these studies, they yielded similar findings. On e-commerce sites and sites featuring hobbies, recreation, and "fetishes," imagery depicting smoking in association with glamour, relaxation, leisure, sex, or alternative lifestyles was prevalent; negative health effects of smoking were rarely depicted or mentioned.[108,109]

The models portrayed on such sites were predominantly young (18–34 years old) and Caucasian in appearance. Females tended to be portrayed as attractive and slim while males appeared more average in appearance.[108] Hong and Cody argue that, in addition to portraying predominantly young role models, many protobacco Web sites contained features characteristic of the Web sites young people frequent. For example, they contain content related to "shopping, hobbies and recreation (including entertainment), sites featuring celebrities and sites featuring sex or sexually arousing visuals."[108(p.291)] Both studies found that, despite sexually explicit content and/or the capacity to order tobacco-related products online on a number of these sites, most do not require age verification procedures. Ribisl and others also found that one-third of such Web sites featured smoking stories that "instructed would-be smokers on the merits of smoking and provided reasons for resuming smoking for those who have already quit."[109(p.74)]

Further information on the use of the Internet in tobacco marketing appears in chapter 4.

Other Entertainment Media

Smoking content in newer forms of entertainment media, such as increasingly realistic video games (e.g., cigar smoking in the video game *Halo 2*), has been largely ignored despite the widespread use of these games (see chapter 4). T-rated (teen-rated) video games comprised 28% of video and computer sales in 2002.[110] In a content analysis of T-rated video games, Haninger and Thompson[111] found that 5 (6%) of 81 games showed tobacco use (either a character used tobacco or a tobacco product otherwise appeared in the game). It is unclear what social normative effects (e.g., smoking norms) are associated with playing these games. However, in domains other than smoking, the games have influenced behavior in children and young adults. For example, playing violent video games has been shown to increase aggression in children and young adults.[75] More research is needed on these influences. Assessing whether tobacco is portrayed in a negative or positive light also is important. Haninger and Thompson[111] state that a character in the video game *Shadow of Destiny* decides to quit smoking cigarettes because, he says, "I don't want to die," reinforcing negative health consequences of cigarette smoking.

The effects of smoking by people performing in live concert and theater venues also

might be studied. Some research on a live theater production to encourage nonsmoking has been reported.[112] However, the effects of characters smoking on stage during live theater performances have not been examined. Some of the other entertainment venues in which smoking influences have been understudied include smoking by musicians in live concerts, depictions of smokers in comic books,[113,114] and (noted earlier) smoking images in movie promotional material.

Efforts to Reduce Exposure

Legal/Policy Issues: Artistic or Commercial Speech?

One of the foundations of democratic society involves freedom to express a diversity of views (see chapter 8). Expression of diverse viewpoints is valuable for enabling communicators to espouse a cause or position and defend it. The expression of diverse viewpoints provides audiences with material on which to base informed judgments about the world around them. This freedom applies not only to political commentary but also to commentary on behaviors within the culture. Thus, most free societies give artists and other communicators the ability to reflect on, depict, and comment on their perception of the world around them. In the United States, this freedom is incorporated into the constitution as the First Amendment of the Bill of Rights.

Interviews conducted by Shields and colleagues[53] with film industry representatives illustrate the value producers and actors place on freedom of speech and their fears about censorship. The movie industry does not welcome public health strategies that advocate for restricting the freedom to depict tobacco use in its films. However, paid product placement deals between some movie production companies and tobacco companies, and contracts precluding unattractive movie depictions of smoking,[18] reveal that some in the entertainment industry have been compensated by the tobacco industry to add branded smoking and other signage to their artistic output. Given the history of product placement in movies and the similarities between the social imagery of smoking in movies and in tobacco advertising, it is likely that the social iconography of smoking in films derives in large part from images of smoking that the tobacco industry cultivated strategically.

In the past, the American movie industry was not afforded the First Amendment protections it now enjoys in the United States[115] and was subject to censorship at both state and local levels. The movie industry fought censorship, arguing that it interfered with First Amendment speech. But in 1915, in *Mutual Film Corporation v. Industrial Commission of Ohio,* the U.S. Supreme Court determined that motion pictures did not constitute part of the "press" and therefore were not entitled to First Amendment protection from censorship. This case arose in response to the passing of a statute creating a Board of Censors that had to approve all motion pictures prior to their exhibition. Localities continued to censor movies until 1952, when the Supreme Court granted full First Amendment protection to movies in *Joseph Burstyn, Inc. v. Wilson.* At that time, there was little or no product placement in movies, but this is no longer the case. Paid product placement is an integral commercial element in almost every movie. Given the increasing number of product placements in movies, the question is now whether or not depictions of brands in movies should be reclassified as commercial speech, which would be subject to a lower level of First Amendment protection.

Self-regulation by eliminating cigarette brands already is happening in some movie production companies. For example, Robert Reiner requires justification for smoking scenes in movies he produces for Castle Rock Entertainment.[116] As a WHO document on this issue states, "The film industry cannot be accused of causing cancer, but they do not have to promote a product that does."[117] In contrast to violence, which may be linked with box-office success, the evidence indicates that the inclusion of smoking is not necessary for the commercial success of movies.[32,42]

Product placement deals are not the sole reason for on-screen smoking. The decision to portray a character as a smoker may arise from a range of motives, such as a desire to make the character seem realistic, reliance on cigarettes as a prop, and personal smoking behavior of an actor.[53] Nevertheless, movie characters for the most part represent the affluent and most powerful segment of society.[3,28] When these actors smoke, whether they play the bad or good guy, the risk is that adolescents will emulate the behavior.[3,4]

Movie Rating Systems

In most countries, movie rating systems exist to protect children from exposure to forms of media society deems harmful or objectionable. The rationale for most rating systems is that society wishes to protect children from seeing media that may have undue influence on their behavior. Most countries have government-sponsored censor boards charged with evaluating the appropriateness of entertainment media for children. The procedures of government-sponsored censor boards are subject to regulation by government and to revision if new data arise regarding a media threat to children. Governments in some countries have attempted to regulate smoking content in entertainment media. In 2001, Russia's lower house of parliament passed a bill to ban images of people smoking in movies and television programs unless smoking is an essential part of the action.[118] The Indian Government had planned to impose a ban on smoking scenes in new films and television serials in July 2006.[119] Thailand's Film Censorship Board has censored depictions of smoking in movies. For example, the release of the movie *Som + Bank* (Bangkok for Sale) was delayed, as the board required that the images of smoking be blurred out.[120] In other countries, efforts are under way to incorporate smoking into government censorship and movie rating systems. For example, the Lung Association in Ontario, Canada, has called upon the government to censor smoking.[121] Some countries also censor aspects of films considered offensive to most adults in their societies. For example, many Arab countries do not allow movies that depict use of tobacco and alcohol to be shown in public places, because doing so violates mainstream religious beliefs (personal communication from R. Kelishadi, M.D., Isfahan University of Medical Sciences, Isfahan, Iran, to J. Sargent, 2004).

Because of unique protections on First Amendment speech in the United States, this country does not have censor boards. Instead, the United States is the only country that allows its film industry to rate its own motion pictures. Rating is done through the MPAA. This rating system, established in November 1968, has undergone only minor changes. In the voluntary MPAA rating system, most producers allow their films to be subjected to review by a rating board. Movies are rated primarily according to what the board determines parents would find objectionable (or what Congress might regulate). In its explanation of the ratings system, the MPAA lists violence, nudity, sensuality, language, and drug use as factors the board considers when rating movies. Board members must have parental experience, and the board president is chosen by the MPAA's president. The MPAA and the National Association of Theatre Owners presidents jointly set decisions regarding rating criteria.[122]

The MPAA promotes the ratings system as a guide to parents. Some might argue that the real purpose of the voluntary movie ratings system is to protect the studios from more intrusive government regulation. In that regard, the film industry has operated in much the same way as the tobacco and alcoholic beverage industries, with the former changing its voluntary rating standard, the Cigarette Advertising and Promotion Code, only when Congress was considering stricter regulations (see the section "Failure of Self-Regulation" in chapter 3).

Voluntary Efforts

Tobacco Industry

Voluntary Advertising Standards

U.S. tobacco companies' voluntary Cigarette Advertising and Promotion Code was modified in 1990 to prohibit paid product placement. The tobacco industry initiated the voluntary ban on paid product placements in the same year that the U.S. Federal Trade Commission conducted an inquiry into product placement activities of various tobacco firms. Little change occurred in the prevalence of cigarette brand appearances after the initiation of the voluntary ban.[33] Moreover, the frequency of on-screen smoking increased in the 1990s, compared with the 1970s and 1980s, suggesting that the ban had little impact on either on-screen product placement or smoking practices.[28–30]

Master Settlement Agreement

In 1998, the U.S. Master Settlement Agreement (MSA) prohibited participating cigarette manufacturers (e.g., Brown & Williamson, Lorillard, Philip Morris, R.J. Reynolds) from product placement activities. The settlement bans payments to promote tobacco products "in any motion picture, television show, theatrical production or other live performance, live or recorded performance of music, commercial film or video, or video game."[123(p.18)] The MSA also prohibits participating tobacco companies from directly or indirectly targeting youth in marketing. No studies have yet been published on cigarette brand placements in movies since the signing of the MSA. However, a number of movies released after this agreement have included cigarette brand placements. Because the U.S. attorneys general are charged with enforcing the MSA, the continued appearance of cigarette brands in movies has become a topic of interest. So far, the tobacco industry has denied violating the MSA by obtaining cigarette brand placements; the denials are in response to several inquiries by the state attorneys general (for more information, see the statement by J. Joseph Curran, Jr., Attorney General of Maryland in appendix 10A).

Movie Industry

Before describing efforts by some in the movie industry to limit the depiction of smoking, it is necessary to describe the industry. Although the industry changes from year to year with buyouts and mergers, the U.S. film industry in 2004 was organized around seven major production companies that finance and distribute motion pictures: Buena Vista Pictures (Disney), Sony Pictures, Metro-Goldwyn-Mayer, Paramount Pictures, Twentieth Century Fox, Universal City Studios, and Warner Brothers Entertainment. Many of the names seen in movies are subsidiaries of these companies. For example, Miramax is a subsidiary of Buena Vista Pictures. These large studios hire production executives responsible for financing their major in-house movie efforts. Many independent film producers also make movies. For independent movies to be successful, the producer must partner with one of the major studios for the widespread distribution of the film. Other players in the industry (the artists) are organized through guilds, bodies that serve as financial advocates for their constituents (directors, actors, screenwriters, etc.) in much the same way that labor unions act on behalf of their members.

The MPAA represents the domestic interests of the major studios, and the Motion Picture Association represents the international interests. The president of the MPAA is also the chief lobbyist for the industry in Washington, D.C. When approached by the state attorneys general in August 2003, Jack Valenti, the MPAA president at the time, sponsored a series of meetings that included himself, the NATO president, and various guilds. However, Valenti declined to incorporate smoking into the MPAA rating system. (For more information on the dialogue between the state attorneys general and the motion picture industry, see the statement by Maryland Attorney General Curran in appendix 10A.) Four years later, in February 2007, the Harvard School of Public Health recommended that the MPAA take action to "eliminate the depiction of tobacco smoking from films accessible to children and youth."[124] In May 2007, 31 attorneys general wrote a letter to major movie studio heads supporting this recommendation and stating the dangers of exposing children to smoking depictions in movies. In a response released that same month, former congressman Dan Glickman, Valenti's successor as president of MPAA, stated that the MPAA would begin to consider smoking depictions when rating movies. However, a letter to the MPAA in June of 2007 from U.S. Senators Durbin, Kennedy, and Lautenberg described MPAA's new policy as "not enough to curb the influence of smoking in the movies on the health of children."[125] Six months after the new policy began, Polansky, Glantz, and Titus reported that there was no substantial change in the percentage of G, PG, or R-rated movies that included smoking depictions compared with the same time period in each of the four previous years.[126]

Efforts to Induce/Promote Change

A number of interested government and citizen groups have attempted to exert influence on media policy and production in relation to tobacco use and other health behaviors in entertainment media, particularly movies. Their strategies can be broadly categorized as collaborative or confrontational.

Collaborative Approaches

The Council for Excellence in Government and the University of Southern California, Annenberg School for Communications, Norman Lear Center, published a review of all efforts to engage the entertainment industry in developing prosocial messages into entertainment.[127] The report, *How Pro-Social Messages Make Their Way into Entertainment Programming,* summarizes these programs and provides a guide to some of the following discussion.

Office on Smoking and Health

The Office on Smoking and Health (OSH) is a division of the National Center for Chronic Disease Prevention and Health Promotion of the Centers for Disease Control and Prevention (CDC). The OSH maintains a Web page that encourages members of the public to work with the entertainment industry to promote accurate depiction of tobacco use and health information in movies, television, and other media.[128] By "accurate," the group means that movies should show the health consequences of smoking. Since 1997, the OSH has developed a collaborative relationship with the entertainment industry to achieve three strategic aims: (1) educate and provide accurate science and resources to the creative community for television programming and films containing tobacco-related themes; (2) develop public relations campaigns and provide media training for volunteer celebrity advocates who want to use their public profile to advance tobacco-free lifestyles; and (3) develop educational materials, with the cooperation of the entertainment industry, that can be used in schools and by health partners to teach and reinforce messages about the dangers of tobacco use. The approach is to encourage the entertainment industry to deglamorize

and denormalize tobacco and its use. It is not clear how successful the group has been in persuading individuals in the entertainment industry to reduce or eliminate smoking.

Seeking Tobacco Alternatives with Realistic Solutions Project

The American Lung Association of Sacramento-Emigrant Trails initiated the Seeking Tobacco Alternatives with Realistic Solutions (STARS) project in 1998. The aims of the project were to work

> with the entertainment industry to reduce the unintentional glamorization of smoking in film and television, provide media education to the general community regarding pro-tobacco messages, and conduct research regarding the impact of the tobacco industry on the entertainment community and acts to reduce this impact.[129(pp.10–11)]

With support from the California Tobacco Control Program, STARS produced an award-winning documentary, *Cigarettes, Cinema, and the Myth of Cool*.[129] This film features writers, directors, and actors speaking about social responsibility and smoking in movies. During the course of the project, a Blue Ribbon Advisory Committee regularly convened; the committee included Hollywood directors and producers. It is not clear that progress was made during the project in eliminating smoking from movies, and the project ceased in 2003 because of lack of funds. However, STARS did result in a well-regarded documentary that showed both sides of the debate over smoking in film.

Entertainment Industries Council

The Entertainment Industries Council (EIC) is a nonprofit organization that aims to provide information, awareness, and understanding of major health and social issues among the entertainment industries and to audiences at large. The EIC was founded in 1983 by entertainment industry leaders. The EIC has three areas of focus: "First Draft," a technical resource service that provides information on request; "Spotlight on Depiction," resources for writers; and "Generation Next," educational resources for film students. In addition, the EIC annually presents the PRISM awards, a nationally televised awards show recognizing the accurate depiction of drug, alcohol, and tobacco use and addiction in film, television, interactive, music, video, and comic book entertainment.[130] Established in 1997, the PRISM awards honor productions that are powerfully entertaining and realistically show substance abuse and addiction. The Robert Wood Johnson Foundation, the OSH, the National Institute on Drug Abuse, and the CDC are among the groups that jointly sponsor these awards. The intent of the PRISM awards is to encourage artists to "make the most of their rights to free creative expression, while at the same time showing the reality of substance abuse and addiction on screen, in song and on the page." The awards serve to communicate and reward realistic depictions of substance use. However, it is not clear to what extent the awards foster change or even to what extent directors and screenwriters are aware of them or use the resources the EIC provides.

Attorneys General/Master Settlement Agreement

The state attorneys general have an interest in reducing youth smoking as part of their involvement in the MSA (see appendix 10A, a statement from Maryland Attorney General J. Joseph Curran Jr., for details on this initiative). To this end, they have begun to collaborate with the movie industry with the aim of decreasing the prevalence of depictions of smoking in movies.

The underlying concern raised by the attorneys general is the role movies play in smoking by youth. In August 2003, 28 state attorneys general, led by Mr. Curran, approached Mr. Valenti, the MPAA president, asking the organization to reduce smoking in movies. A letter from Mr. Valenti then invited the attorneys general to a series

of discussions on the issue (see letters in appendix 10B). This letter may have been the first public statement made by a movie industry spokesperson on smoking in movies, despite many press inquiries as a result of scientific publications that linked smoking in movies with teens' smoking. The initial dialogue resulted in a series of meetings among scientists, several attorneys general, and movie industry leaders. In May 2007, 31 attorneys general once again approached the MPAA, NATO, and major studio heads to decrease depictions of smoking in movies directed at youth.[131] It also led to a hearing convened in April 2004 by the Senate Committee on Commerce, Science, and Transportation, to consider the impact of smoking in movies on children. The Senate hearing is evidence of an expanding demonstration of substantial interest in major political institutions in the United States regarding tobacco use in movies and its potential impact on children. In addition to meeting with industry representatives, the attorneys general have addressed the tobacco industry with respect to movie brand appearances. Assistant Attorney General Dennis Eckhart of California sent letters to the legal counsels of tobacco companies whose brands appeared in movies after the MSA. In each case, the letters prompted communication between counsel for the tobacco industry and counsel for the movie industry to verify that there was no violation of the MSA in the form of a payment to place the brand (see example in appendix 10C). This legal activity was a sign to tobacco companies that they are being monitored. It is also possible that, as a result, the motion picture industry will act upon requests by tobacco companies not to have their brands used in movies.

Confrontational Approaches

Smoke Free Movies and the Rate Smoking "R" Public Health Campaign

Smoke Free Movies is a public health campaign started by Stanton A. Glantz in 2001.[132] The campaign aims to reduce the impact of smoking in movies on adolescents through four specific, voluntary changes in movie industry policy:

Rate new smoking movies R. Any film that shows or implies tobacco use should be rated R. The only exceptions should be when the presentation of tobacco clearly and unambiguously reflects the dangers and consequences of tobacco use or is necessary to represent smoking by a real historical figure.

Certify no payoffs. The producers should post a certificate in the credits at the end of the movie declaring that nobody on the production received anything of value (cash money, free cigarettes or other gifts, free publicity, interest-free loans, or anything else) from anyone in exchange for using or displaying tobacco or its use.

Require strong antismoking advertisements. Studios and theaters should require a genuinely strong antismoking advertisement (not one produced by a tobacco company) to run before any film with any tobacco presence, regardless of its MPAA rating.

Stop identifying tobacco brands. There should be no tobacco brand identification and no presence of tobacco brand imagery (such as billboards) in the background of any movie scene.

The aim of the Smoke Free Movies campaign is to create a groundswell of support for these policy aims within the public health community and, eventually, among public policymakers to bring pressure to bear on the industry. By 2004, the campaign gained the endorsement of many mainstream health organizations, including WHO, the American Medical Association, the American Academy of Pediatrics, and the American Heart Association. The Smoke Free Movies media campaign began by rolling out a

[ONE IN A SERIES]

An R-rating for smoking: Why it's reasonable, effective, and *inevitable.*

Smoking appeared in 77% of movies rated PG-13 over the last five years. Research shows movies are the biggest pro-smoking influence on children today, more powerful than traditional tobacco advertising. 390,000 kids every year start smoking because of exposure to smoking on screen; as adults 100,000 of them will die from it. A common-sense change to Hollywood's rating system can cut this death toll by 60% or more.

WHY IT'S TIME TO RATE SMOKING "R":

Research published last June in one of the world's leading medical journals confirms a decade of findings: smoking in movies recruits over half of all new teenage smokers in the United States.

The effect of movie smoking on kids is clear and direct: the more they see, the more likely they are to start smoking. The teens most powerfully influenced are the children of non-smoking parents.

The good news: the less smoking teens see in the movies, the less likely they are to light that first cigarette.

Because kids get 62% of their exposure to movie smoking from G, PG, and PG-13 movies, rating smoking "R" will reduce smoking rates proportionally.

Of the 390,000 kids each year who now start smoking because of what they see on screen, 100,000 a year will eventually die from tobacco-related disease.

Averting 62% of those deaths a year is equal to ending all U.S. deaths from drunk driving, AIDS, violent crime and illegal drugs. Worth doing? Well, yes.

R RESTRICTED
UNDER 17 REQUIRES ACCOMPANYING PARENT OR ADULT GUARDIAN
STRONG LANGUAGE AND TOBACCO USE

"R" FOR RESPONSIBLE. The MPAA claims the First Amendment is the reason it won't rate smoking "R." But it R-rates offensive but perfectly legal language now. Surely it doesn't consider its own age-classification system censorship? After all, the First Amendment prohibits the government from banning movies, not voluntary, responsible rating choices by the studio-controlled MPAA.

HOLLYWOOD CAN DO IT TOMORROW.

It's no stretch to make the "R" cover smoking. It already covers other legal activities, while giving parents "cautionary advance warning," says the MPAA.

When it rates 4-letter words "R," for example, the MPAA is distinguishing between talk appropriate for kids and speech intended for adult audiences.

It doesn't censor. It age-classifies.

Treat smoking the same way. If a studio decides it's vital for a character to smoke, it can accept an "R" rating just as it does now for cursing or removing a bra—two legal activities that kill nobody at all.

That's no bar to creativity. Studios would still be free to make all the smoking films they want. Many smoking films are already rated "R" for other reasons.

Kids could still see them, too, if their parents take them—that's what an "R" rating means. Real progress is when "R" takes smoking out of the G, PG and PG-13 films that kids are exposed to most.

In fact, only an "R" can keep smoking out of new youth-rated movies, cut teen smoking rates, and save 62,000 lives a year.

A MILLION TOBACCO DEATHS LATE...

The studios have been stalling public health groups on this issue for more than a decade. "Dialogue" has only produced more on-screen smoking, more real-life addiction, billions for tobacco companies.

That's why medical professionals, including L.A. County's own Department of Health Services, now join socially-responsible shareholders and thousands of young people across the country to demand that smoking be rated "R."

Smoking on screen poses the single greatest public health danger to America's children. Chief executives of the seven major studios and their corporate parents could reduce the danger by 60% or more tomorrow.

The "R" is inevitable. Why not now?

Learn more about the "R" at SmokeFreeMovies.ucsf.edu

SMOKE FREE MOVIES

Example of a Smoke Free Movies advertisement

controversial print advertising campaign in March 2001 that was aimed at members of the movie industry. The campaign was designed to raise awareness about the effect of smoking in movies on adolescent smoking; to place responsibility for change on studio executives, theater owners, and actors; and to suggest government oversight.[133] Along with the advertising campaign, Smoke Free Movies has organized and maintains a network of public health activists at state and local levels. These groups have developed awareness campaigns aimed at youth (in New York, Texas, and Vermont, among others), have engaged in a national letter-writing campaign to movie stars, and have encouraged other forms of activism, such as e-mail messages to movie executives.

The most controversial policy aim of Smoke Free Movies is the R rating for smoking. This policy aim has been under the control of the movie studios and theater owners, the two entities that run the MPAA rating system. From the original perspective of the movie industry, the movie rating system was designed for concerned parents and was not designed in relation to public health considerations. However, the ratings do include violence. After the Columbine High School shootings in 1999, public health considerations were added when efforts by President Clinton, the Senate, and public health experts led to changes in the movie industry's depiction of violence in R-rated films. The movie industry deleted the most violent scenes from soon-to-be released films and increased restrictions on how R-rated movies are marketed. From a public health perspective, limiting the portrayal of tobacco in movies is important because of its link to adolescent smoking (see earlier discussion) and the severity of the health consequences of smoking compared with some other depictions of behavior (e.g., using foul language).

Another issue that has been raised is whether the balance between adolescents' desire to see R-rated movies and parental attempts to limit viewing of these movies weighs in favor of higher or lower exposure rates for R-rated movies among young adolescents. If adolescents successfully circumvent attempts by parents and theaters to restrict their exposure to these movies, their viewing rates would be expected to be similar to other rating categories. The R rating for the smoking campaign, in this case, would be futile and possibly even counterproductive. If view rates for R-rated movies are in fact lower among young adolescents, then the argument could be made that rating movies with smoking R could limit adolescent exposure despite making them "forbidden fruit." To shed light on these possibilities, researchers[7,134] examined the reach of movies, as determined by MPAA ratings, for a sample of young adolescents.

The adolescents were part of an already published cross-sectional survey of 4,946 students, 10–14 years of age, attending 15 junior high schools in New Hampshire and Vermont.[7,134] Each student was surveyed on whether he or she had seen a randomly selected subsample of 50 movies, drawn from 601 popular contemporary movies (based on year of release and box-office success). Almost 50% of the movies were rated R. Because movies were randomly selected, each title appeared on an average of 470 surveys (standard deviation of seven). Therefore, it was possible to determine accurately the percentage of adolescents who had seen each title (termed *reach* in the marketing literature). G-rated movies were seen by most of the adolescents, with a median reach of 67% of adolescents. As the rating becomes more restrictive toward adolescents, reach drops. This is especially true for the transition from PG-13 rating to R rating, for which the median and interquartile ranges for reach drop substantially. Whereas the

75th percentile for reach in PG-13 movies was more than 60%, the 75th percentile for R-rated movies barely exceeded 30%. These data provide convincing evidence that movies in the R-rating category are seen by many fewer young adolescents compared with movies that are not rated R. This result is probably because parents restrict access (see below) and because theaters generally enforce the R-rating as part of their participation in the MPAA ratings system.

Would the R rating for smoking have a substantial immediate impact on adolescents' exposure to smoking in movies? Smoke Free Movies is calling for the R rating to be applied only to new movies. Most adolescents' exposure to R movies is through seeing older movies on video and DVD. The prospective R rating for smoking would therefore substantially cut exposure to depictions of smoking at theaters that air new releases and would have a more pronounced impact over time because of the cumulative effects of the rating change. On the other hand, if the R rating for smoking caused parents to pay less attention to the ratings system, it could result in the reach of R-rated movies increasing among younger adolescents. Because of these concerns, it may be wise to also consider, along with implementation of this policy change, surveillance of R-rated movie viewership among adolescents and inclusion of a motivational effort to convince parents to take the ratings system literally and seriously.

Other Potential Strategies

Parental Supervision of Entertainment Media

Most media exposure occurs in the household. Therefore, parental supervision of their children's access to media could affect the children's exposure to media depictions of smoking, and some evidence supports this idea. Most research involves restriction of access to movies in the R-rated category.

R-Rated Movie Restriction

The prevalence of smoking depicted in movies increases with high levels of movie rating. In a sample of 250 contemporary movies, Dalton and colleagues[32] showed that the median number of smoking depictions was 8.5 for R-rated movies, 4 for PG-13–rated movies, 3.5 for PG-rated movies, and 1 for G-rated movies. About one-half of the movies produced in 1990 were R rated, and that percentage dropped to one-third after 2000. Thus, by restricting access to R-rated movies, parents reduce movie exposure overall by a factor of one-third to one-half and eliminate movies that contain the highest concentration of smoking.

Two studies examining the effect of parental R-rated movie restriction on adolescent smoking were identified. The studies of a sample of Vermont and New Hampshire children aged 10–14 years at baseline assessed parental restriction of R-rated movies through the question, "How often do your parents allow you to watch movies or videos that are rated 'R'?" (never, once in a while, sometimes, all the time). In the cross-sectional study,[135] 90% of the 4,544 students were younger than 14 years of age. However, only 16% reported they were never allowed to watch R-rated movies. One-third (31%) indicated that their parents never restricted them from viewing R-rated movies. Thus, restriction of R-rated movies was not a major focus for most of the parents of the children in this sample. Among adolescents who reported R-movie restriction, exposure to R-rated movies was about one-eighth as high as that for adolescents who reported no restriction. Exposure to PG-13 movies was also reduced by about 50%. Thus, reports of R-rated parent restriction seemed to be associated with lower exposure to such movies.

Importantly, initiation of alcohol consumption and tobacco use was much lower in adolescents reporting movie restriction, even after controlling for a number of other covariates. These variables included sociodemographics, social influences (smoking by friends and family), personality (sensation seeking, rebelliousness), and parenting style (authoritative parenting). Compared with adolescents with no R-rated movie restriction, the adjusted relative risk (95% CI) for smoking initiation was 0.74 (0.65–0.85) for adolescents with partial restriction and 0.29 (0.19–0.45) for those who were completely restricted from viewing R-rated movies.

The never smokers in the cross-sectional study were followed up one to two years later. Smoking incidence (10% tried smoking during the observation period) was examined as a function of parental R-movie restriction at baseline.[8] Adolescents allowed to see R-rated movies at baseline were three times more likely to try smoking (relative risks adjusted for a full set of covariates) compared with those who were never allowed to watch R-rated movies. The effect was stronger for adolescents from nonsmoking families, among whom only 3 of 399 with complete R-rated movie restriction tried smoking. In this group, the adjusted relative risk of smoking given no R-movie restriction was 10. Students were asked again about movie restriction at follow-up. Most reported no change in restriction status, indicating that many parents are able to continue enforcing restriction as adolescents age during junior high school. Moreover, compared with adolescents reporting no change, relaxation of restriction was associated with higher risk of smoking in each of the baseline restriction categories. This longitudinal study provides strong evidence that supports interventions to motivate and assist parents in enforcing media restrictions as a smoking prevention measure aimed at young adolescents.

Devices That Restrict Access

This is a rapidly changing area as technology offers parents more control of the home media environment. The shift toward automated control of home media was spearheaded by the television V-Chip, a device that enables parents to block television channels and also to block based on television and movie ratings. In the Telecommunications Act of 1996,[136] Congress required manufacturers of televisions to include a control device that could be used by parents to block unwanted programming. In the words of the legislation, the device

> enables parents to block programming based on identifying programs without ratings,
>
> is available to consumers at a cost which is comparable to the cost of technology that allows parents to block programming based on common ratings, and
>
> will allow parents to block a broad range of programs on a multi-channel system as effectively and as easily as technology that allows parents to block programming based on common ratings …

Since 2000, the V-Chip is included on all televisions distributed in the United States with screens larger than 13 inches. In addition to the V-Chip, many modern video and DVD players contain software that gives parents the ability to block television programs by rating, so that their children cannot play material above a certain threshold rating. Given the prevalence of this kind of technology and the interest in protecting children from the ill effects of media, one would have expected a number of interventions involving the V-Chip. Yet a MEDLINE search on "V-Chip" conducted in September 2004 yields only four articles, and a search on PsycINFO yields only six—none of which involves cross-sectional or interventional data. Although this technology is in its infancy, the potential benefits of

widespread application are clear. One study examining the effect of a blocking device that restricted television time showed that mean daily television time for children in the intervention dropped, as did their increase in body mass index.[137] This randomized clinical trial provides strong evidence for a powerful intervention effect.

Internet

It may be too early to consider interventions aimed at the Internet as relatively little is known about how people use it. In a study published in 2004, a sample of underage adolescents were asked to purchase cigarettes over the Internet.[138] The authors reported that 29 of 30 subjects were able to make a purchase by using a parent's credit card, and 75% received the product in the mail. This study shows that access to cigarettes by minors is possible. However, as yet the prevalence of such purchasing behavior among the adolescent population is unknown.

Hong and Cody[108] recommend the following actions to counteract the presence and influence of tobacco on the Web: (1) online tobacco retailers should be required to use age verification and should not sell tobacco products without a bona fide age check; (2) consumer awareness information on the hazards associated with smoking should be displayed for visitors to protobacco Web sites; (3) popular portal sites for the general public and adolescents should be encouraged to provide links or banner advertisements to sites on tobacco cessation or to provide educational material on the health effects of smoking; and (4) tobacco control advocates should use the Web more proactively to advocate smoke-free, healthy environments (e.g., work to have a more noticeable Web presence and use some of the engaging, interactive features that appeal to audiences). By 2004, however, Congress had not passed any restrictions on Internet purchases.

Efforts to Modify Response to Exposure

Antitobacco Advertising in Theaters

As described in the experimental studies section, there is some evidence that showing an antitobacco advertisement before a movie with smoking blunts the movie's effect on attitudes. On the basis of this evidence, one aim of Smoke Free Movies is to require the distributing production studio to pay for antitobacco advertising in theaters. Another possibility raised in discussions between the representatives of the National Association of Attorneys General and the movie industry is attaching an antismoking message ahead of any videotape or DVD that contained smoking. This action would cost the industry little or nothing. In 2007, at least one major studio executive announced that the studio planned to add anti-smoking PSAs on DVDs of future films that feature cigarette smoking.[139]

As noted earlier, through the impetus of state attorneys general, the possibility of communications about smoking depictions in movies has been raised with the president of the National Association of Theatre Owners as well as owner-members. Because movies appeal strongly to adolescents, movie theaters may be ideal places for antitobacco advertising campaign messages. However, the source of funding for such a campaign is unclear.

Media Literacy

Media literacy refers to educational approaches to help viewers better understand media inputs. Some counteradvertising campaigns and contests, discussed in the section "Media Activism" in chapter 11, can be considered a form of media literacy. Critical viewing skills are a

major component of most media literacy educational programs.[140] From the standpoint of persuasion theory,[44,78,141] these programs aim to affect the way the recipient processes media information. Many of the media images viewers see are processed implicitly, without much thought. In theory, adolescents are affected in a cumulative fashion by the images of smoking in the media. As they see literally thousands of depictions of smoking—by affluent characters and without portrayal of negative health effects—in movies, television, and tobacco marketing materials, over time, they associate smoking with positive expectations. By teaching about the mechanisms by which media persuade, media literacy programs should cause the recipient to become a more effortful processor of the media—for example, to be more skeptical of commercial messages and images.[141] An adolescent who is knowledgeable about the role of product placement in marketing and the persuasive power of movie images of smoking will be more resistant to automatically accepting the positive expectancies associated with the image.

Media literacy has great appeal as theory. However, only scant evidence suggests that these programs have short- or long-term effects on adolescents. One study was identified that evaluated a youth tobacco use prevention intervention that included media literacy skills among high school students.[142] Using a quasi-experimental design, the investigators assigned 448 students in 15 classes in three schools to receive the intervention; 161 students in 5 classes in one school served as a control group. The intervention curriculum included health education (consequences of tobacco use, social norms, parental use of tobacco), media literacy skills training (media analysis, media production, product presentation, and media advocacy), and skills training in resisting peer influence. The investigators measured preintervention (one week before intervention) and postintervention (one week after the intervention) knowledge about health consequences, protobacco attitudes, and use of tobacco. The intervention was associated with significantly higher knowledge scores, a decrease in protobacco attitudes, and a decrease in current tobacco use. Limitations of the study include measurement of short-term outcomes only and inability to attribute attitudinal and behavior change to the media literacy component of the intervention.

Another study examined the effect of a media literacy curriculum on attitudes toward alcohol use in a sample of third-grade students. Austin and colleagues[143] examined the immediate and delayed effects of a media literacy program on alcohol in 246 third-grade students. They proposed a model in which more critical attitudes toward televised portrayals of alcohol use (less perceived realism, less identification, less desirability) would affect alcohol expectancies and, ultimately, behavior. Students were randomly assigned to one of four groups according to two factors: pretest/no pretest and treatment/no treatment. Outcomes were measured immediately and at three months posttest. Children in the intervention group watched a 28-minute videotape *Buy Me That,* which *Consumer Reports* produced for children and which discusses techniques used by advertisers to make products look appealing. The videotape was followed by a guided discussion of four advertisements (two for beer and two for soda pop). Outcomes surveyed included understanding of persuasive intent ("Ads on TV tell the truth"), realism ("Real people act like people in ads"), social norms ("Most teens drink"), similarity ("I do things that people in ads do"), desirability ("People in beer ads are popular"), identification ("I want to have my life like people in beer ads"), and expectancies ("Drinking makes you happier"). Results of the experiment generally were very supportive of the notion that media literacy training has a strong

immediate effect on raising skepticism toward advertising and decreasing participants' intent to engage in the behaviors depicted in advertisements. Some of these effects persisted, albeit to a lesser degree, at delayed posttest.

These studies suggest that media literacy may have a role in training children to resist entertainment messages. However, this intervention area is still very little studied, especially considering the extent to which this practice already has been implemented in educational settings. Until better data are available regarding the long-term effectiveness of media literacy, emphasis—especially for young children and adolescents—should be directed at reducing exposure.

Summary

Content analyses of popular entertainment media indicate that portrayal of tobacco use is common in movies and is often modeled by stars bearing favored social attributes. The negative health effects of tobacco use are rarely depicted. Tobacco portrayal appears to be less common in popular television and music than in movies. Tobacco exposure in online media is an area for further study.

The results of cross-sectional and longitudinal studies assessing audience responses to portrayals of tobacco use in movies are remarkably consistent in showing an association between seeing smoking in movies and more positive attitudes toward smoking and adolescent smoking initiation. The population-based data include cross-sectional samples from different regions of the United States, Australia, New Zealand, and Asia, and a nationally representative sample of U.S. adolescents—all supporting a link between viewing smoking in movies and adolescent smoking.

The two published longitudinal studies show an independent link between exposure to smoking in movies at baseline and smoking initiation in the future; estimates of the effect size are consistent with their cross-sectional counterparts. The experimental studies examine short-term responses, generally supporting an effect of seeing movie stars smoking on screen on attitudes such as favorable ratings of smokers and intent to smoke in the future. The experimental studies suggest also that the findings among adolescents may be applicable to young adult college students. As a whole, this rich research base provides strong support for the notion that smoking in entertainment media plays a causal role in smoking initiation among adolescents, and this role warrants action at the individual and societal levels.

Still more research is needed on the important role of popular entertainment media, such as movies, in influencing young people to initiate smoking. Research has not yet determined the role entertainment smoking may play in maintaining experimental smoking or in prompting relapse among smokers who have quit. In addition, no published intervention studies have evaluated whether adolescents' exposure can be decreased by motivating parents to restrict access or by teaching adolescents to process depictions of smoking in movies with more skepticism.

Such research should continue to inform the ongoing effort to reduce exposure through media to tobacco use and/or counteract the effects of such exposure. Numerous efforts already have contributed to reducing tobacco use in the media. These efforts include policy interventions such as tobacco advertising and product placement restrictions, public education, and advocacy efforts targeting entertainment providers. In the future, research on trends—ranging from encouraging increased parental responsibility to controversial initiatives

such as R ratings for movies featuring tobacco use—will continue to build on this base of knowledge. Continued efforts to reduce exposure to tobacco through media may potentially affect social attitudes and behavior toward smoking, which in turn may have a long-term effect on the public's disease burden attributable to tobacco use.

Conclusions

1. Children and adolescents in the United States have heavy exposure to entertainment media, with an average of 5.5 person-hours of media use per day. Tobacco use often is integrated into entertainment media programming, especially in movies.
2. Portrayals of tobacco in movies include images of tobacco use and images of tobacco product brand names and logos. Depictions of smoking are pervasive in movies, occurring in three-quarters or more of contemporary box-office hits. Cigar use also is commonly depicted in movies, but use of smokeless tobacco is not. Smoking is more common in movies rated for adults (i.e., R-rated), but depiction of smoking is not related to box-office success. Identifiable cigarette brands appeared in about one-third of movies released during the 1990s. In contrast to its frequent depiction in movies, tobacco use is found in about 20% of television shows and 25% of music videos.
3. Smoking prevalence among contemporary movie characters is approximately 25%, about twice what it was in the 1970s and 1980s. In contrast, smoking in the general population has declined since the 1970s. Smokers in movies differ from smokers in the general population: the former are more likely to be affluent and white. The health consequences of smoking are rarely depicted in movies.
4. Cross-sectional studies show that, among adolescents, exposure to smoking in movies is associated with initiation of smoking, independent of several other factors such as smoking by friends and family. Cross-sectional studies also indicate that among adolescent never smokers, exposure to smoking in movies is associated with more positive attitudes toward smoking.
5. Two longitudinal studies demonstrate that adolescents with higher exposure to smoking in movies at baseline are 2.0 to 2.7 times more likely to try cigarette smoking in the future. More studies are needed on the role exposure to smoking in movies plays in adolescents' smoking beyond the initiation phase.
6. Experimental studies show that images of cigarette smoking in film can influence adolescent and adult viewers' beliefs about social norms for smoking, beliefs about the function and consequences of smoking, and their personal intentions to smoke. Protobacco movie content (e.g., stars smoking, absence of health consequences portrayed) appears to promote prosmoking beliefs and intentions. The effects observed for experimental studies of smoking in movies on viewers' smoking-related beliefs are of a similar magnitude as those observed in experimental media research on other health topics (e.g., effects of media violence on viewers' aggression).
7. Experimental studies indicate that antitobacco advertisements screened before films can partially counter the impact of tobacco portrayals in movies.
8. The total weight of evidence from cross-sectional, longitudinal, and experimental studies, combined with the high theoretical plausibility from

the perspective of social influences, indicates a causal relationship between exposure to movie smoking depictions and youth smoking initiation.

9. One longitudinal study indicates that parental steps to reduce the exposure of never smokers (aged 10–14 years) to R-rated movies, which have higher numbers of smoking events, produced a corresponding reduction in their smoking initiation.
10. Efforts to reduce media exposure to tobacco include restrictions on tobacco advertising and product placements, advocacy targeted to entertainment providers, media literacy interventions aimed at the general public, continued dialogue with key stakeholders in the entertainment industry, and proposed self-regulation by the movie industry (e.g., tobacco-related ratings).

Appendix 10A. Statement by Attorney General Curran of Maryland on Role of the State Attorneys General

EFFORTS OF STATE ATTORNEYS GENERAL

TO SEEK MOVIE INDUSTRY COOPERATION

IN REDUCING YOUTH EXPOSURE TO SMOKING IN MOVIES

By

J. JOSEPH CURRAN, JR.

ATTORNEY GENERAL OF MARYLAND

TOBACCO LITIGATION & THE 1998 MASTER SETTLEMENT AGREEMENT (MSA)

When I filed Maryland's lawsuit in 1996 against the nation's largest tobacco companies, as did my fellow Attorneys General from across the country, we sought restitution for the billions of dollars paid by our states to treat tobacco related illnesses. Just as important, we also sought to stop the tobacco companies' marketing campaigns that target and encourage children to purchase and consume tobacco products.

In November 1998, I was one of the 46 state Attorneys General who signed the historic Master Settlement Agreement (MSA) which settled our state suits. Under the MSA, the tobacco companies are required to pay the settling states more than $200 billion over 25 years. Equally important, tobacco companies are restricted from targeting youth or making tobacco brand names ubiquitous through apparel or other merchandise, billboard and bus ads, sponsorships or product placements in the media, including movies.[1]

The MSA states in part:

No participating tobacco manufacturer may…make, or cause to be made, any payment or other consideration to any person or entity to use, display, make reference to or use as a prop any Tobacco Product, Tobacco Product package, advertisement for a Tobacco Product, or any other item bearing a Brand Name in any motion picture, television show, theatrical production or other live performance, live or recorded performance of music, commercial film or video, or video game ("Media")….

[1]The MSA prohibits, generally and with exceptions not listed here: any action to target youth in the advertising or marketing of tobacco products; cartoons in cigarette advertising or packaging; outdoor and transit ads; brand name sponsorships of concerts or sporting events and naming rights to sports venues; tobacco brand name merchandise; free samples of tobacco products; tobacco coupons or credits to children; and payment for use of tobacco products in the media.

MSA, Section III (e).[2] Moreover, the MSA also prohibits the participating manufacturers from authorizing any third party to use a brand name in a way in which a participating manufacturer may not.[3]

IN SPITE OF THE MSA PROHIBITIONS, DEPICTIONS OF SMOKING AND BRAND APPEARANCES PERSIST IN THE MOVIES

In spite of these express prohibitions, smoking in movies—particularly in youth rated movies—remains as prevalent today as it was before the MSA—and by some measures has increased. Since the MSA, movie stars continue to smoke on-screen.

Most films portray smokers and smoking in a positive or neutral light and few films appear to contain negative statements about tobacco use. Moreover, even after the MSA, movies continue to show tobacco brand names.

THE TOBACCO COMPANIES DENY A ROLE IN MOVIE BRAND APPEARANCES

In March 2003, California Attorney General Bill Lockyear wrote to each of the four major tobacco companies to express concern over depictions of smoking and tobacco brand appearances since the MSA. In light of the MSA's express prohibitions, General Lockyear asked each manufacturer whether it had played a role in the appearance of its cigarette brands in post-MSA movies identified in his letters. All four companies denied any role in the appearances of their products in movies. Indeed, at General Lockyer's urging that the tobacco companies take commercially reasonable steps against brand appearances, Philip Morris, Lorillard and R.J. Reynolds have sent letters notifying movie studios that they do not want their products to appear in the movies. Most recently, we are pleased that Philip Morris and R.J. Reynolds have taken commercially reasonable steps to ask studios to remove references to their tobacco brand names from two particular movies before the films are released on DVD or video or licensed for broadcast.

IN LIGHT OF THE SCIENTIFIC EVIDENCE AND POLICY RECOMMENDATIONS, ATTORNEYS GENERAL SEEK COOPERATION OF THE MOVIE INDUSTRY

In August 2003, compelled by the strength of the research linking seeing smoking in movies with teen smoking, I wrote a letter, joined by the Attorneys General of 27 other states and jurisdictions, to Mr. Jack Valenti, President of the Motion Picture Association of America (MPAA), seeking cooperation of the motion picture industry to reduce the depiction of smoking in movies. Mr. Valenti promptly responded by extending an invitation to my

[2]Under the MSA, "Tobacco Products" means cigarettes and smokeless tobacco products. Section II (vv).

[3]MSA Section III(i) provides that "no Participating Manufacturer may license or otherwise expressly authorize any third party to use or advertise within any Settling State any Brand Name in a manner prohibited by this Agreement if done by a Participating Manufacturer itself.… Following such written notice, the Participating Manufacturer will promptly take commercially reasonable steps against any such non-de minimis third party activity." In other words, tobacco companies are required to take affirmative steps such as written demands to third parties to cease and desist the unauthorized activity.

colleagues and me to meet and share with him the details of the study. Mr. Valenti further proposed setting up a round-table in discussion in Los Angeles with representatives of the creative guilds and movie production companies.

My colleagues and I have followed up on Mr. Valenti's offer, several times over. In October 2003, Connecticut Attorney General Richard Blumenthal. former Pennsylvania Attorney General Mike Fisher, Utah Attorney General Mark Shurtleff, Vermont Attorney General Bill Sorrell, and I met with Mr. Valenti and his staff in Washington, D.C. After presenting the research, Dr. James D. Sargent, a pediatrician and lead investigator of the Dartmouth study, handed Mr. Valenti the following "prescription" which mirrors the policy recommendations endorsed by a growing number of our leading major medical and public health organizations:

- Give smoking movies an R-rating;
- Eliminate brand identification;
- Certify that no consideration was received for smoking in the movie; and
- Run antismoking messages before any movie that depicts smoking.

Although Mr. Valenti unequivocally rejected the R-rating for movies that depict smoking, he proposed a series of round table discussions with other members of the movie industry. Since that initial October 2003 meeting, my colleague attorneys general and I have taken our message, accompanied by Dartmouth scientists Dalton and Sargent, to Hollywood. As proposed by Mr. Valenti, on December 17, 2003, we spent a morning in Los Angeles at the Directors Guild of America (DGA) with their executive staff and directors who serve on the DGA's Social Responsibility Task Force. Later that same day, we met and discussed the research and its implications for movies and youth smoking with senior production executives of the MPAA studios: Metro-Goldwyn-Mayer Studios, Paramount Pictures, Universal Pictures, Warner Bros., Sony Pictures Entertainment, Walt Disney Pictures, and 20th Century Fox Film Corporation. Representatives of the Screen Actors Guild and the Writers Guild of America also participated in the afternoon discussion. In these two sessions, after Dr. Dalton presented her findings, the attorneys general voiced our concerns directly to these directors, writers, actors and movie studio executives that depictions of smoking in their youth rated films and the persistence of cigarette brand names in any movie works against the goals of the MSA. We encouraged them to adjust and enhance their voluntary movie ratings system—designed to provide America's parents with the information necessary to make informed and responsible decisions about their childrens' movie-going choices—so that parents can be as informed about smoking in movies as they currently are about foul language. Given the state attorneys general's responsibility to enforce the MSA prohibition against cigarette brand placements in the media by tobacco companies, we also asked for the opportunity to learn more from the MPAA studio executives about the circumstances surrounding appearances of cigarette brands in movies.

We also have taken our message to the National Association of Theatre Owners. In April 2004, Vermont Attorney General Bill Sorrell, Dr. Dalton and I had the opportunity to address the NATO Board of Directors at its annual meeting in Washington, D.C. In addition to the Dartmouth research, Dr. Dalton also reviewed the promising findings that antismoking PSAs

run before movies can "inoculate" youth to depictions of smoking in films.[4] Given NATO's joint power with the MPAA over the movie ratings system and its members' exclusive control over their movie screens, NATO has a unique opportunity to protect our youth from smoking by making smoking a criterion in movie ratings (equal to foul language) and by running antismoking PSAs before movies.

And, because we believe that educating the movie industry is a crucial first step toward achieving the changes we seek in reducing youth exposure to smoking depictions and eliminating cigarette brand appearances, we are very pleased to report that the DGA has agreed to feature an article on this important subject in the June issue of its widely circulated magazine. We are hopeful that this message will be communicated most effectively by directors to directors and other movie makers and will guide their creative decisions.

With regard to the MPAA and its member studios, we will continue our educational efforts by seeking mutually agreeable ways to sensitize these individuals and organizations to the public health benefits of reducing youth exposure to smoking depictions and eliminating cigarette brand name appearances.

Most recently, on May 11, 2004, I presented the concerns and efforts of the state attorneys general at a hearing before the United States Senate Committee on Commerce, Science & Transportation which was convened to consider the impact of smoking in movies on children. At the hearing, at which Senator John Ensign presided, Mr. Valenti testified on behalf of the MPAA and Mr. LeVar Burton testified on behalf of the Social Responsibility Task Force of the Directors Guild of America. Dr. Madeline Dalton reviewed the method and compelling findings of the Dartmouth research. Dr. Stanton Glantz argued for the adoption by the movie industry of the four policy recommendations. I was very pleased that Senators Ensign, Ron Wyden and Bill Nelson agree that the movie industry should avail itself of its unique opportunity to eliminate cigarette brand appearances, reduce or eliminate smoking depictions in movies and run antismoking public service announcements in theaters. Moreover, Mr. Burton announced at the hearing that he and other colleagues would donate their time and talent to create antismoking public service announcements.

CONCLUSION

Reducing youth exposure to depictions of smoking and eliminating tobacco brand appearances in movies will require bold, voluntary action by the entire movie industry. The DGA's pledge to feature this issue in their magazine and Mr. Burton's willingness to create antismoking PSA's to be run in theaters are very important and positive steps. I am hopeful that such leadership will prompt similar commitments of resources from the entire movie industry—studios, actors, writers and theater owners—to become part of the solution to the nation's deadliest preventable problem of smoking.

[4]Pechmann, C., Shih, C-F. Smoking scenes in movies and antismoking advertisements before movies: effects on youth. *J. Marketing. 1999; 63(3) 1-13.*

Appendix 10B. Letter from 28 State Attorneys General to Jack Valenti and Response

STATE ATTORNEYS GENERAL

A Communication From the Chief Legal Officers of the following States and Jurisdictions:

Arkansas • California • Colorado • Connecticut • Hawaii • Illinois • Maine • Maryland • Massachusetts • Minnesota • Mississippi• Northern Mariana Islands • New Hampshire • New Jersey • New Mexico • New York • Ohio • Oklahoma • Oregon • Pennsylvania • Tennessee • Utah • Vermont • Washington • West Virginia

August 26, 2003

Jack Valenti, President
Motion Picture Association of America
15503 Ventura Boulevard
Encino, California 91436

Dear Mr. Valenti:

We, the undersigned Attorneys General, write to ask you, with your longstanding prominence and influence in the American motion picture industry, to exercise your exemplary leadership to effect potentially far reaching benefits for public health. A Dartmouth Medical School study released last month confirms what other research has suggested: reducing the prevalence of cigarette smoking in motion pictures could significantly decrease the initiation of smoking in youth. With this new evidence of how effective reducing smoking in motion pictures would be in preventing youth smoking, the motion picture industry stands in a uniquely powerful position to bring about a profoundly beneficial impact on the health and well-being of millions of Americans.

Smoking is the leading cause of preventable death in each of our states and across the country, accounting for the death of over 400,000 Americans each year -- more people than alcohol, AIDS, car crashes, illegal drugs, murders, and suicides combined.

The good news is that smoking rates have declined -- attributable directly to the major efforts undertaken and sustained at the federal, state and local levels. State attorneys general sued the major tobacco manufacturers resulting in the 1998 historic settlement under which the tobacco companies agreed not only to pay the states $206 billion dollars but also to make unprecedented changes in the way cigarettes are sold, advertised, and marketed -- especially when it comes to youth. The battle to decrease smoking, especially among our youth, has been waged by public health initiatives at every level of government, by the American Legacy Foundation, and by increases in cigarette excise taxes.

However, despite the declines in youth smoking rates across the country, our teens continue to smoke at an unacceptable rate. Given our knowledge that almost 90% of current adult smokers began smoking as teens, we are disheartened that 28.5% (over 4.5 million) of all high school students smoke, with an estimated 2,000 young people (under age18) becoming new daily smokers every day. These numbers translate into a horrifying projection: more than 5 million children alive today will die prematurely from their smoking.

Mr. Jack Valenti
August 26, 2003
Page 2

Attorney General Bill Lockyer recently wrote to you asking for industry cooperation on World No Tobacco Day. The motion picture industry holds an enviably powerful position to build upon efforts to reduce youth smoking in this country in a way no one else can. In June, and the impetus for our letter to you now, a research team from the Dartmouth Medical School published the broadest research to date in the growing body of uncontroverted scientific evidence that exposure to smoking in motion pictures has a significant impact on youth initiation of smoking. The study, published in The Lancet, provides additional "strong evidence that viewing smoking in movies promotes smoking initiation among adolescents." With funding by the National Cancer Institute, Dr. Madeline Dalton and her research team found that the children, ages 10-14, who watched the highest amount of smoking in movies were almost three (2.71) times more likely to start smoking than those children who watched the least amount of smoking in movies.

While recognizing the need for further study, the researchers offered the following insight:

> The effect of exposure to movie smoking is important, both because the effect on smoking initiation is moderately strong and because the exposure is almost universal. Based on the lists of 50 randomly selected movies, only five (0-2%) participants were unexposed to movie smoking. If the link between exposure to smoking in movies and smoking initiation proves to be causal, our data suggest that eliminating adolescents' exposure to movie smoking could reduce smoking initiation by half.

The motion picture industry, therefore, is uniquely situated to bring about sweeping change to prevent youth smoking. Simply by reducing the depiction of smoking in movies, the industry can protect our nation's youth from the known perils of smoking. Mr. Valenti, you have demonstrated your leadership and willingness in the past to join forces to protect our youth from violence in the media. We are hopeful you will use your best efforts again here to rally the motion picture industry to move from being a source of the problem to being recognized as a critically important force in solving the nation's deadly problem of youth smoking.

We look forward to hearing your ideas about how the motion picture industry will pursue this tremendous opportunity. Thank you in advance for your thoughtful consideration of this important matter.

Very truly yours,

[signed]

Attorney General J. Joseph Curran, Jr.
Attorney General of Maryland

09/02/2003 14:49 FAX 202 452 9823 MPAA-EXECUTIVE OFFICE 002

MOTION PICTURE ASSOCIATION
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JACK VALENTI
PRESIDENT
AND
CHIEF EXECUTIVE OFFICER

August 28, 2003

Dear General Curran

I am most respectful of the views of you and your colleagues on any subject, as well as the issue of smoking in movies.

There are conflicting emotions which connect to this issue. Even as I personally fret uneasily over smoking in movies – I am opposed to smoking in movies unless it is requisite to defining the "character" of the actor's role - I am reminded there are in this free and loving land a good many legal products that have the capability of producing tragedy in the lives of far too many Americans – too much smoking for too long – the abuse of alcohol intake which agonizes too many families – the terrible sorrow that guns inflict on too many neighborhoods.

How to deal with those dark facts of real life in the art of visual story-telling? How do creative artists confront conflicting themes of the human condition as they try to construct a dramatic narrative? The question is not conspiratorial, not at all. As a passionate partisan of the First Amendment, as one who believes that those forty-five words comprise the one clause in our Constitution which guarantees all the others, I am awfully reluctant to offer counsel to creative filmmakers about how they shape their story, what to put in and what to leave out. I have on a good many occasions discussed films' philosophic tracings and the responsibility of filmmakers with many directors, writers, producers, actors, and studio executives. But I must tell you that I only offer my opinion, never fiats. Dialogue with

film makers and studio executives continues. These are open and free exchanges, fastening on all aspects of the creative process.

I believe that worthy public officials who have by solemn oath sworn to do their duty, must always do what they believe to be the right thing to do, even though a good many of their constituents might be in opposition. I also believe that film makers must do the same, that is, tell a story the way they choose to tell it, though others might be unsettled by what they see.

I am not acquainted with the details of the Dartmouth Medical Team study which was published in *The Lancet*. I know nothing about the study's methodology or the entrails of its findings. But I do not question whatever were the results. I have faith in the integrity of the Dartmouth Medical Team.

Would you find it suitable to designate someone with detailed knowledge of the study to give me guidance on it? I would be pleased to meet with whomever you select. Moreover, once I have had an opportunity to learn more about the study, I propose setting up a round-table discussion in Los Angeles with representatives of the creative guilds and production companies, and whomever from your group you would choose to attend. So, please tell me if both these suggestions strike a responsive chord within you. I'll wait to hear from you.

Respectfully,

The Honorable J. Joseph Curran, Jr.
Attorney General
200 St. Paul Place
Baltimore, MD 21202-2212

Appendix 10C. Letter from Lorillard to California Assistant Attorney General Dennis Eckhart Regarding Brand Appearance of Newport in the Movie *City by the Sea*

Lorillard
TOBACCO COMPANY

Ronald S. Milstein
Vice President,
General Counsel and Secretary

June 6, 2003

(336) 335-7718
Fax (336) 335-7707
E-Mail: rmilstein@lortobco.com

Mr. Dennis Eckhart
Senior Assistant Attorney General
State of California
Department of Justice
1300 I Street, Suite 125
Sacramento, California 94244-2550

Dear Dennis:

I have received your letter of May 29, 2003, responding to mine of April 29, 2003.

As you requested, Lorillard has sent a letter to Warner Brothers Studio concerning their use of Newport brand cigarettes in their movie *City By The Sea*. A copy is attached. I will forward their response to you.

Lorillard disagrees that in every circumstance "commercially reasonable steps" include the type of action we have agreed to take in this instance. I explained why this is in my letter to you. However, you are correct that our "respective positions are not very far apart," and we are most willing to address your request in this situation.

We await information about your efforts to reduce or eliminate smoking in motion pictures and other forms of media, and are ready to assist these efforts. In that regard, I wanted you to know that this spring, Lorillard launched a partnership with a company named Screenvision, which works with movie chains and individual movie houses to place advertisements on movie screens. Lorillard's acclaimed Youth Smoking Prevention Program ads, "Roommates" and "Piercing Parlor," will be seen throughout the summer on more than 5,000 movie screens throughout the country, with a projected 20 million teens viewing the ads. If you would like more information about this initiative, or would like to discuss this issue further, please don't hesitate to call.

Very truly yours,

Ronald S. Milstein

RSM/rh

Attachment

Corporate Office:
714 Green Valley Road
Greensboro, NC 27408

Mail to:
P.O. Box 10529
Greensboro, NC 27404-0529

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THE ONTARIO TOBACCO RESEARCH UNIT
UNITÉ DE RECHERCHE SUR LE TABAC DE L'ONTARIO

Generating knowledge for public health

Exposure to Onscreen Tobacco in Movies among Ontario Youth, 2004-2013

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Executive Summary

Movies are a powerful vehicle for promoting tobacco and health; authorities all over the world have concluded that smoking in movies is a cause for smoking initiation and progression to regular smoking among youth. Higher exposure to onscreen tobacco increases the uptake of smoking among youth and undermines tobacco prevention efforts.

The Ontario Tobacco Research Unit collaborated with the Ontario Coalition for Smoke-Free Movies to conduct a study to examine the extent of onscreen tobacco exposure in movies among Ontario youth. The study aimed to examine data on the number of incidents of onscreen tobacco in movies released from 2004 to 2013 and estimate the impact of exposure to onscreen tobacco in movies on youth smoking.

Data on the level of onscreen tobacco in movies was obtained from a sample of 1434 top-grossing movies (i.e. movies whose box office ranked in the top 10 for at least one week) released to theatres in the "domestic" (Canada and US) market between January 2004 and December 2013. For these movies, tobacco incidents (i.e. the occurrences of tobacco use or implied use in a movie) and tobacco impressions (number of tobacco incidents multiplied by paid admissions per movie) were analyzed.

Key findings of the study include:

- Of 1434 top-grossing movies released in theatres from 2004 to 2013, 1289 (90%) were youth-rated in Ontario, with 633 rated PG (44%), 500 rated 14A (35%), 156 rated G (11%). Adult-rated movies accounted for 10% of the sample, with 144 movies rated 18A and a single movie rated R.
- A total of 818 movies (57%) featured onscreen tobacco. Eighty-six percent (701/818) of movies with tobacco were youth-rated in Ontario, much higher than in the US (54%, 440/818). As a result, Ontario youth had greater exposure to onscreen tobacco imagery than their US counterparts.
- The top grossing movies contained a total of 26,850 tobacco incidents. Eighty-five percent of tobacco incidents were depicted in movies that were youth-rated in Ontario, twice the percentage (42%) found in US youth-rated movies. Although the average number of tobacco incidents per movie decreased by 16% in the past 10 years (22.1 in 2004 to 18.5 in 2013), Ontario youth still had higher chances of exposure to onscreen tobacco than their

US counterparts because a greater share of tobacco incidents were depicted in Ontario youth-rated movies.

- The trend in tobacco impressions largely resembled that of the tobacco incidents, a decline between 2005 and 2010 followed by a rebound in 2011 and 2012 and a slight decrease in 2013. There was a 13% decrease (1024 million to 892 million) in annual tobacco impressions between 2004 and 2013. The top-grossing movies delivered an estimated 8.1 billion in-theatre tobacco impressions to moviegoers in Ontario from 2004 to 2013. Youth-rated movies delivered the vast majority of tobacco impressions (86%, overall) to Ontario audiences.
- Discrepancies exist between the number of movies that have tobacco related labels issued by the Ontario Film Review Board (OFRB) and the number of movies with tobacco incidents reported by independent monitors. In 2008 the OFRB included a "tobacco use" detailed observation for movies listed at http://www.ofrb.gov.on.ca/. Of 749 movies released between 2008 -2013, 51% (379/749) depicted tobacco, as reported by independent monitors, while just 34% (255/749) received a "tobacco use" detailed observation by the OFRB. In addition, the OFRB also assigned an "illustrated or verbal reference to drugs, alcohol or tobacco" detailed observation to 28% of these movies (206/749). The OFRB issued tobacco-related observations to 78% (296/379) of the movies that independent monitors had identified as depicting tobacco imagery.
- On March 2012, the OFRB included a 'tobacco use' content advisory when classifying movies. Between Mar 2012- 2013, 237 movies were released; 54% (127/237) depicted tobacco incidents as reported by independent monitors, while 6% (14/237) were given a 'tobacco use' content advisory by the OFRB.
- The Smoke-Free Ontario Scientific Advisory Committee notes that an effective way to reduce youth exposure to onscreen tobacco in Ontario is to require adult ratings (18A in Ontario) for movies with any tobacco imagery. This policy measure has been recommended by public health stakeholders and institutions provincially, nationally and internationally.
- Over the seven years (2005, 2007-2012) where data were available, it is estimated that, on average, 13,241 current smokers in Ontario aged 12-17 were recruited to smoking in a year because of watching smoking in movies. It is projected that, on average, 4,237 of these smokers will die prematurely as a result of tobacco imagery in movies.

Introduction

While smoking rates among young people in Ontario have declined over the past decade, smoking among youth remains an important public health issue. In 2012, approximately 21,200 youth aged 12-17 years in Ontario were current smokers.[1,2]

Tobacco use in entertainment media, such as movies, is a powerful form of promotion that has long been exploited by tobacco industry.[3] Exposure to smoking in movies causes smoking initiation and progression to regular smoking.[4,5,6,7] A dose-response relationship between exposure to onscreen smoking and youth tobacco use has also been reported.[7] A recent meta-analysis estimated a population-attributable risk of 37% for adolescent smoking due to exposure to tobacco imagery in movies, meaning that 37% of youth smokers in the population are recruited to smoking due to seeing smoking in movies.[i,8,9]

Recognizing the negative impact of onscreen smoking on youth, the World Health Organization has recommended a set of specific measures to permanently and substantially reduce adolescent exposure to onscreen smoking. These include assigning adult ratings to new movies with tobacco imagery.[10] Similarly, the 2012 US Surgeon General's report, *Preventing Tobacco Use Among Youth and Young Adults*, endorses assigning adult ratings to movies that depict tobacco.[11] In Ontario, the Smoke-Free Ontario Scientific Advisory Committee has also recommended assigning adult ratings (18A) to movies with tobacco imagery as part of a comprehensive tobacco control strategy.[12]

A number of studies have been conducted in the US and UK to examine the level and trend of smoking appearances in movies.[13,14,15] A recent Canadian study explored the impact of smoking in movies and of film production subsidies on adolescent smoking.[16] To our knowledge, no study has been undertaken to examine the level and trend of tobacco appearances in movies in Ontario and their impact on youth smoking.

The Ontario Tobacco Research Unit collaborated with the Ontario Coalition for Smoke-Free Movies to conduct a study to examine the extent of exposure to movies with tobacco imagery among Ontario youth. The study examined data on the number of incidents of onscreen smoking in movies released from 2004 to 2013 and estimated the impact of exposure to onscreen tobacco on youth smoking. The sample of movies, movie ratings, key indicators of exposure to onscreen tobacco and data analysis are described in the Method section below.

[i] Most of these studies were done in US where there are few meaningful restrictions on cigarette advertising compared to Canada. Since Canada has all but banned conventional advertising, it is likely that the population attributable risk will be higher than in the US.

Method

Sample of Movies

The study focused on top-grossing movies. These are defined as having ranked among the top 10 movies in box office gross earnings for the US/Canadian market in any week of their first-run theatrical release. These top 10 movies account for more than 80% of all films released in the domestic (Canada and US) market and for more than 95% of tickets sold.[13] A total of 1434 top-grossing movies released to theatres in the "domestic" (US and Canadian) market between January 2004 and December 2013 were examined.

Movie Ratings

The study examined youth-rated and adult-rated movies in Ontario as classified by the Ontario Film Review Board (OFRB). Movie ratings available through the Motion Picture Association of America (MPAA) were also used in this study to compare age classification of movies with smoking in Ontario and US. These rating systems are compared in Appendix 1.

The OFRB is a provincial arms-length agency to the Ministry of Consumer Services, mandated "to classify films and thereby provide the public with sufficient information to make informed viewing choices for themselves and their children."[17] When assigning ratings to movies the agency considers language, nudity, violence, sexual activity, horror and psychological impact but does not consider smoking. The current OFRB ratings are: G (general - suits all ages), PG (parental guidance advised), 14A (persons younger than 14 must be accompanied by an adult), 18A (persons younger than 18 must be accompanied by an adult) and R (restricted to persons age 18 or older).[ii] The OFRB rating categories and classification guideline are presented in Appendix 1. In this study, movies with ratings G, PG and 14A were grouped as youth-rated while the remaining two ratings (18A and R) were considered as adult-rated. It should be noted that only one out of the 1434 movies in the sample was R rated by OFRB.

The OFRB also provides 'detailed observations' and 'content advisories' for rated movies to inform the public about specific details of a movie such as violence, coarse language and/or sexually suggestive scenes. While both 'detailed observations' and 'content advisories' assigned to a movie are accessible to the public in an online database maintained by the OFRB, only 'content advisories' are required to appear together with the rating of a movie on all advertising exhibits.

[ii] OFRB sometime re-classifies movies after release as a result of consumer complaints. In our analysis, the initial rating assigned by OFRB to each movie was considered.

In May 2008, the OFRB passed a motion to include 'tobacco use' within their list of 'detailed observations' (see Appendix 2). Since the exact implementation start date is unknown, we used August 15, 2008, the release date of the first movie for which the 'tobacco use' detailed observation was applied, to mark the beginning this OFRB practice. Within the list of the OFRB's 'detailed observations', there is another observation of 'illustrated or verbal references to drugs, alcohol or tobacco' which seems to have been in effect since the beginning of 2008. In March 2012, the OFRB implemented a 'tobacco use' content advisory. It is unclear how OFRB decides to list a movie with a tobacco-related 'detailed observations' and 'content advisory'.

Tobacco Incidents

The level of smoking in movies is assessed by counting the number of tobacco incidents on screen. A tobacco incident is the use or implied use of a tobacco product (almost exclusively smoking) by an actor. Each screen appearance of tobacco within each scene is counted as one tobacco incident. The occurrence of tobacco is counted as a new incident each time 1) a tobacco product goes off screen and then back on screen, 2) a different actor is shown with a tobacco product, or 3) a scene changes, and the new scene contains the use of implied off-screen use of a tobacco product.

Tobacco incident data for top-grossing movies in 2004-2013 was provided by independent monitors - the *Thumbs Up! Thumbs Down!* (TUTD) project of Breathe California of Sacramento-Emigrant Trails. TUTD has used trained monitors to track tobacco incidents and their characteristics since 1991. Since 2002, it has expanded its sample to monitor all movies that are among the ten top-grossing movies in at least one calendar week.

Tobacco Impressions

Tobacco impressions are estimated by multiplying the number of tobacco incidents in a movie by the paid admissions to that movie. Paid admissions are calculated by dividing the domestic (Canada and US) box office gross receipts per movie by the average US ticket price in the year of the movie's release. This methodology was developed by the University of California, San Francisco, Center for Tobacco Control Research and Education. Because box office data specific to Canada and Ontario are not publicly available, domestic box office sales were estimated for Ontario and for the US on a population basis. Information on the annual population size of Ontario and the US was obtained from Statistics Canada and the US Census Bureau, respectively.

It should be noted that the estimated tobacco impressions are based on impressions seen in theatre viewings only. Theatre impressions substantially underestimate total exposure because they do not include impressions generated by viewing movies on in-home media: broadcast, cable, satellite, on-demand, DVD and Blu-ray, and on streaming media.

Impact of Onscreen Smoking in Movies on Youth

Two estimates of the impact of onscreen smoking were produced: 1) the number of adolescents recruited to smoke due to their exposure to onscreen smoking in movies and 2) the number of premature deaths attributable to onscreen smoking in movies.

1. A meta-analysis of five US studies that controlled for a range of confounding factors yielded an overall attributable risk of adolescent smoking due to exposure to onscreen smoking in movies of 37% (95% CI 25%-52%).[8,9] In other words, 37% of youth smokers in the population are likely to have started smoking because of seeing onscreen smoking. We estimated the number of adolescents recruited to smoking because of their exposure to onscreen smoking by multiplying the attributable risk estimate with the number of Ontario adolescent smokers aged 12-17. The latter was obtained from the Canadian Community Health Survey (CCHS), an ongoing national health survey.[2] Smoking was defined as having smoked 100 cigarettes in one's lifetime and smoking in the last 30 days. Estimates of the number of adolescents recruited to smoking due to exposure onscreen smoking in movies were produced for seven years (2005 and 2007 to 2012) for which CCHS data on the number of adolescent smokers were available.

2. The future probability of smoking attributable mortality (PSAM) among adolescent smokers is an estimated 32%.[18] To calculate the number of premature deaths attributable to onscreen smoking in movies, we multiplied the PSAM estimate with the estimate of the number of adolescent smokers recruited to smoking due to their exposure to onscreen smoking in movies. Our estimates of adolescent smokers and deaths attributable to onscreen smoking in movies may not capture the full impact of onscreen smoking on Ontario youth because the actual population attributable risk for onscreen smoking is likely higher in Ontario than the 37% estimate based on US studies. This is due to two factors. First, a substantial number of movies with a high incidence of smoking are adult-rated in the US but are youth-rated in Ontario, so the number of smoking incidents easily accessible to youth in Ontario is higher than in the US. Second, because Canada has

much stronger restrictions on conventional cigarette advertising and promotion than the US, it is likely that the population attributable risk for onscreen smoking will be higher in Canada than in the US.

Analysis

Descriptive statistical analysis was conducted using STATA software. We estimated the proportion of movies with tobacco imagery, total number of tobacco incidents in movies, and tobacco impressions delivered to theatre audiences in Ontario over a ten-year period (2004-2013). We compared tobacco related 'detailed observations' and 'content advisories' issued by the OFRB with the occurrence of onscreen tobacco in movies as identified by independent monitors. We also compared the distribution of tobacco incidents and tobacco impressions by youth-rated and adult-rated movies in Ontario and the US. Finally, we estimated the number of Ontario youth recruited to smoking and the associated future deaths caused by exposure to onscreen smoking in movies.

Table 1 summarizes the number of movies (per year and in total) included in the analysis. The actual list of all movies (n=1434) with detailed information about their rating, number of tobacco incidents and tobacco impressions, and presence of the OFRB tobacco-related 'detailed observations' and 'content advisory' can be found online in PDF or Excel format.

Table 1: Number of Movies Released in the Domestic Market (Canada and US), by OFRB Rating, 2004-2013

Year	G	PG	14A	18A/R*	Total
2004	14	74	46	10	144
2005	24	67	40	12	143
2006	26	75	43	17	161
2007	17	58	59	23	157
2008	12	58	55	20	145
2009	10	61	60	13	144
2010	11	65	43	16	135
2011	20	64	40	10	134
2012	11	56	55	14	136
2013	11	55	59	10	135
Total	156	633	500	145	1434
% of Total	11	44	35	10	

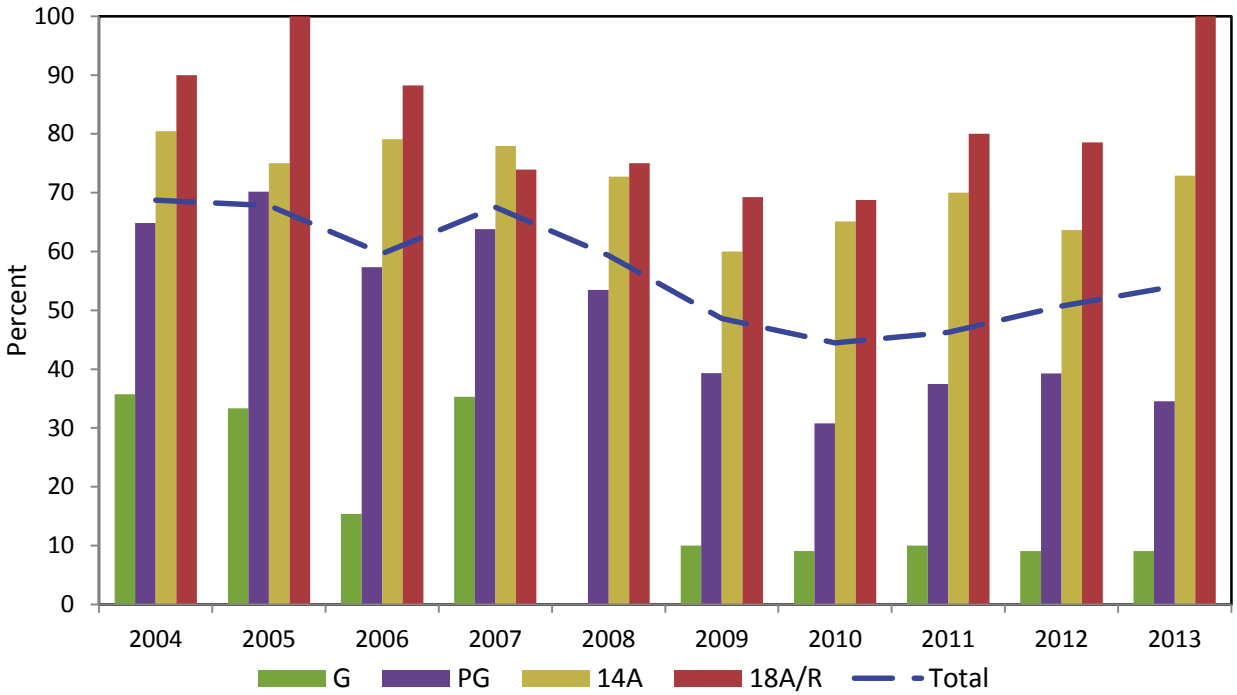
* There is only one R rated movie released in 2006 in the sample

Results

Movies with Onscreen Tobacco

Between 2004 and 2013, 57% (818/1434) of top-grossing movies, including 54% (701/1289) of youth-rated movies, featured onscreen tobacco. Figure 1 reports the proportion of movies with onscreen tobacco, by movie ratings from 2004 to 2013.

Figure 1: Percentage of Movies with Onscreen Tobacco, by OFRB Rating, 2004-2013



The percentage of movies with tobacco imagery released annually stayed close to 70% from 2004 to 2007. The percentage declined gradually to 44% (60/135) in 2010 and then rebounded steadily through 2013. Although the percentage of movies with tobacco imagery in 2013 was less than that in 2004, more than half of the movies (54%, 73/135) still featured onscreen tobacco.

Forty-four percent of all movies in the sample were rated PG and 35% were rated 14A. Although these movies shared a similar pattern of change as movies with onscreen tobacco over time, the proportion of PG movies with onscreen tobacco dropped by nearly half (47%, from 65% to 35%) from 2004 to 2013, while the proportion of 14A movies with tobacco declined less than 10% (80% to 73%).

The percentage of G rated movies with onscreen tobacco dropped to zero in 2008 and stayed at around 10% thereafter. It is important to note that only 11% of movies in the sample of top-grossing movies were G rated.

Adult-rated movies accounted for 10% of the sample, with 144 movies rated 18A and one rated R. The percentage of adult-rated movies with onscreen tobacco fluctuated over time. It hovered near 90% between 2004 and 2006, decreased to near 70% in 2010, and then rebounded to above 80%.

In 2005 and 2013, all adult-rated movies in Ontario featured tobacco imagery. The percentage of 14A rated movies with onscreen tobacco approached or surpassed that of the adult-rated movies in 2007, 2008 and 2010.

Tobacco Incidents

Total Tobacco Incidents

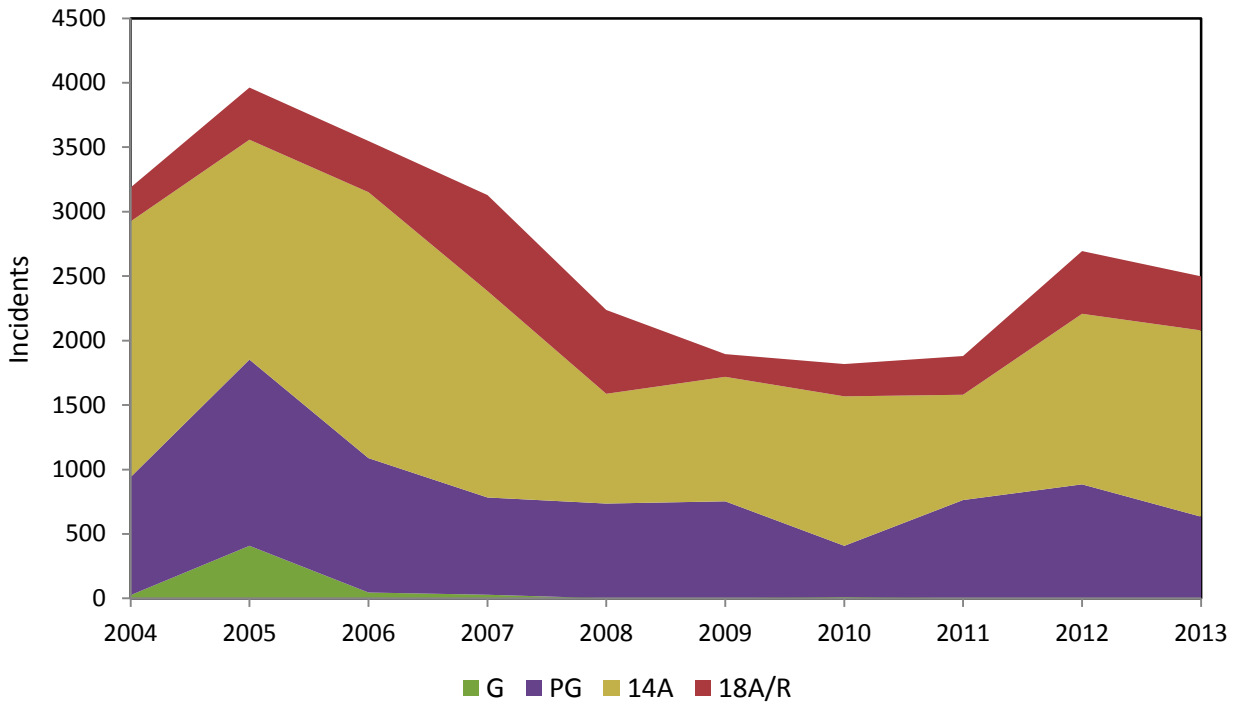
Between 2004 and 2013, the 1434 top grossing movies contained a total of 26,850 tobacco incidents. The number of tobacco incidents delivered annually decreased steadily between 2005 and 2010, then rebounded upward in 2012 (to 2694 incidents), and decreased slightly in 2013 (to 2498 incidents). Overall, there was a 22% decline in annual tobacco incidents on screen between 2004 and 2013. Trends in onscreen tobacco incidents by movie ratings are shown in Figure 2.

G rated movies: Total tobacco incidents featured in G rated movies reached zero in 2008. They have been negligible ever since. However, few movies in the sample (11%) are rated G.

PG and 14A rated movies: Between 2004 and 2013, annual tobacco incidents decreased by 31% (918 to 634) in PG movies and by 27% (1981 to 1444) in 14A movies. Despite these changes, the large majority of tobacco incidents were observed in youth-rated movies over this ten-year period. More than half (52%, 13906/26850) of all tobacco incidents were in movies rated 14A.

18A/R rated movies: The number of tobacco incidents in adult-rated movies increased by 59% (264 to 419) from 2004 to 2013. However, the number of tobacco incidents in Ontario adult rated movies were persistently outnumbered by the number of tobacco incidents in either PG or 14A movies.

Figure 2: Total Tobacco Incidents in Top-Grossing Movies, by OFRB Rating, 2004-2013



Tobacco Incidents per Movie

The number of tobacco incidents per movie is a measure that controls for fluctuations in the number of top-grossing movies released each year and the number of movies in each age classification. Overall, the number of tobacco incidents per movie decreased by 16% from 2004 to 2013 (from 22.1 incidents to 18.5 incidents).

The number of incidents per movie peaked in 2005, declined through 2010, and then rebounded. Changes in the average number of tobacco incidents per movie by movie ratings are shown in Figure 3.

G rated movies: Tobacco incidents per G movie dropped to zero in 2008; overall, the number of tobacco incidents per G movie has remained low since 2006.

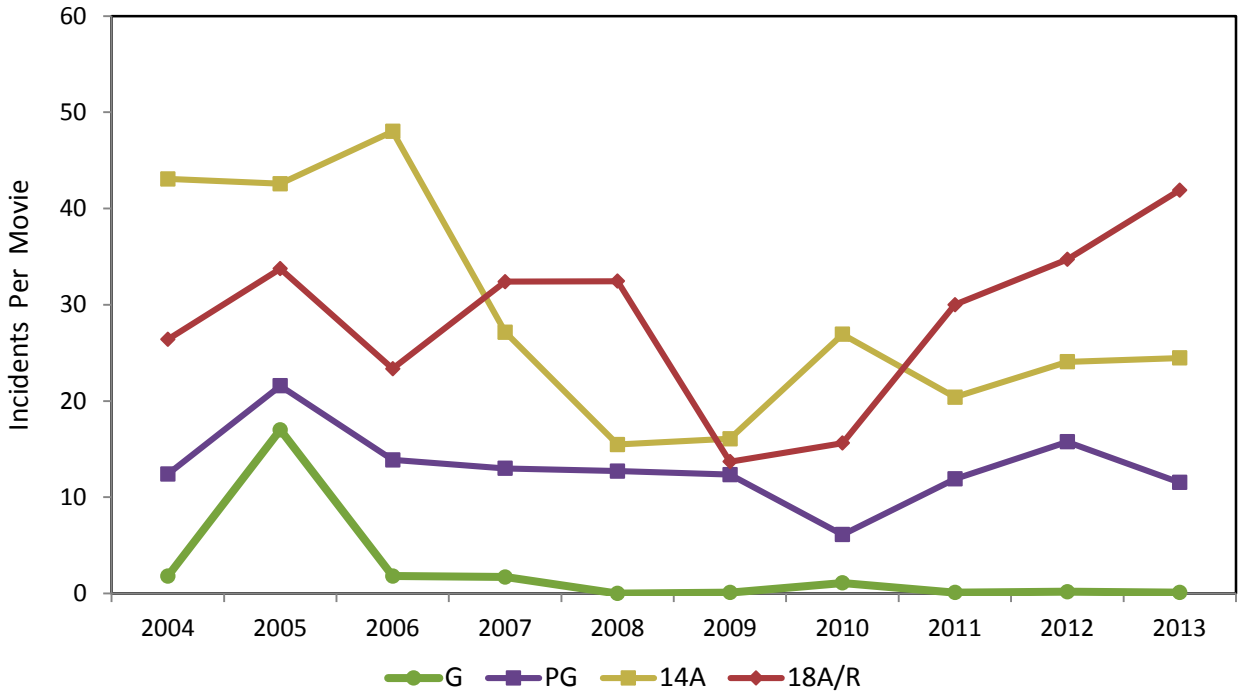
PG rated movies: Tobacco incidents per PG movie declined gradually after 2005 to the lowest level in 2010, increased in 2011-2012 but has since decreased in 2013. From 2004 to 2013, the number of incidents per PG movie fell from 12.4 (918/74) to 11.5 (634/55), a reduction of 7%.

14A rated movies: The number of tobacco incidents per 14A movie ranged from 43 to 48 in the

period from 2004 to 2006 then dropped to below 20 in 2008. Despite a bounce back in 2010, the average number of incidents per 14A movie has stayed under 25 since. Overall, from 2004 to 2013, the number of tobacco incidents per 14A movie fell 43% from 43.1 to 24.5. It is worth mentioning that there were more tobacco incidents in 14A movies, on average, than in 18A movies in five of the past ten years.

18A/R rated movies: Tobacco incidents among adult-rated movies hovered around 30 incidents per movie from 2004 to 2008. The number of incidents per movie dropped below 20 in 2009, but then climbed steadily to a ten-year high of 42 (419/10) in 2013.

Figure 3: Average Number of Tobacco Incidents per Movie, by OFRB Rating, 2004-2013



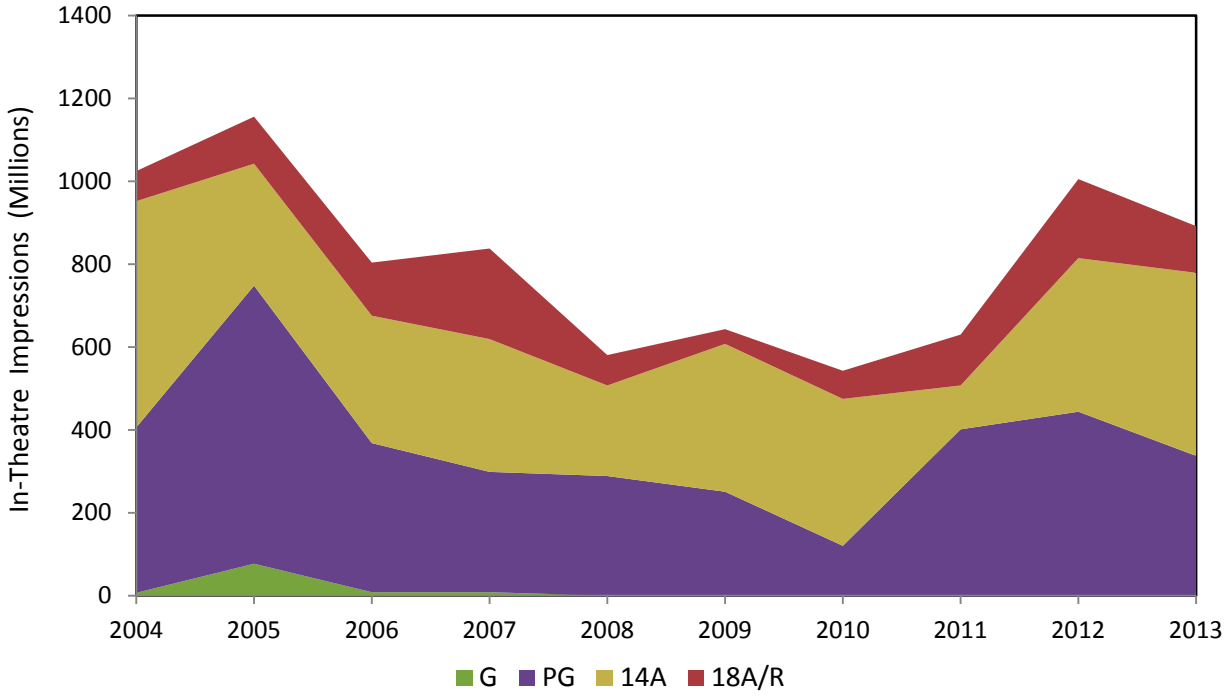
Tobacco Impressions

From 2004 to 2013, the top-grossing movies delivered an estimated 8.1 billion in-theatre tobacco impressions to moviegoers in Ontario. Of this, an estimated 7 billion tobacco impressions (86%) were delivered by youth-rated movies, 1% by G rated movies, 44% by PG rated movies, and 41% by 14A rated movies.

In general, the trend in tobacco impressions largely resembled that of tobacco incidents: the amount of smoking in a movie (tobacco incidents) and the number of people who see that movie

(paid admissions) are both factors in estimating tobacco impressions. The number of in-theatre tobacco impressions delivered in Ontario decreased between 2005 and 2010. The trend reversed in 2011 and the number of impressions rose steeply in 2012. In 2013, in-theatre tobacco impressions fell to an estimated 892 million impressions, a decrease of 13% compared to 2004 (1024 million impressions). Trends in tobacco impressions by movie ratings are presented in Figure 4.

Figure 4: In-Theatre Tobacco Impressions, by OFRB Rating, Ontario, 2004-2013



G rated movies: Movies with G rating delivered almost no tobacco impressions.

PG and 14A rated movies: Between 2004 and 2013, annual tobacco impressions delivered by PG movies declined by 15% (399 to 337 million), while those delivered by 14A movies fell by 19% (546 to 442 million).

18A/R movies; In contrast to PG and 14A movies, annual tobacco impression delivered by adult-rated movies increased by 57% (72 to 113 millions) over the same time period.

Despite the decrease in tobacco impressions from youth-rated movies over time, the majority of tobacco impressions were consistently delivered by youth-rated movies (G/PG/14A) in Ontario.

In 2004, youth-rated movies delivered 93% (953/1024 million) of all tobacco impressions in Ontario; in 2013 they delivered 87% (779/892 million).

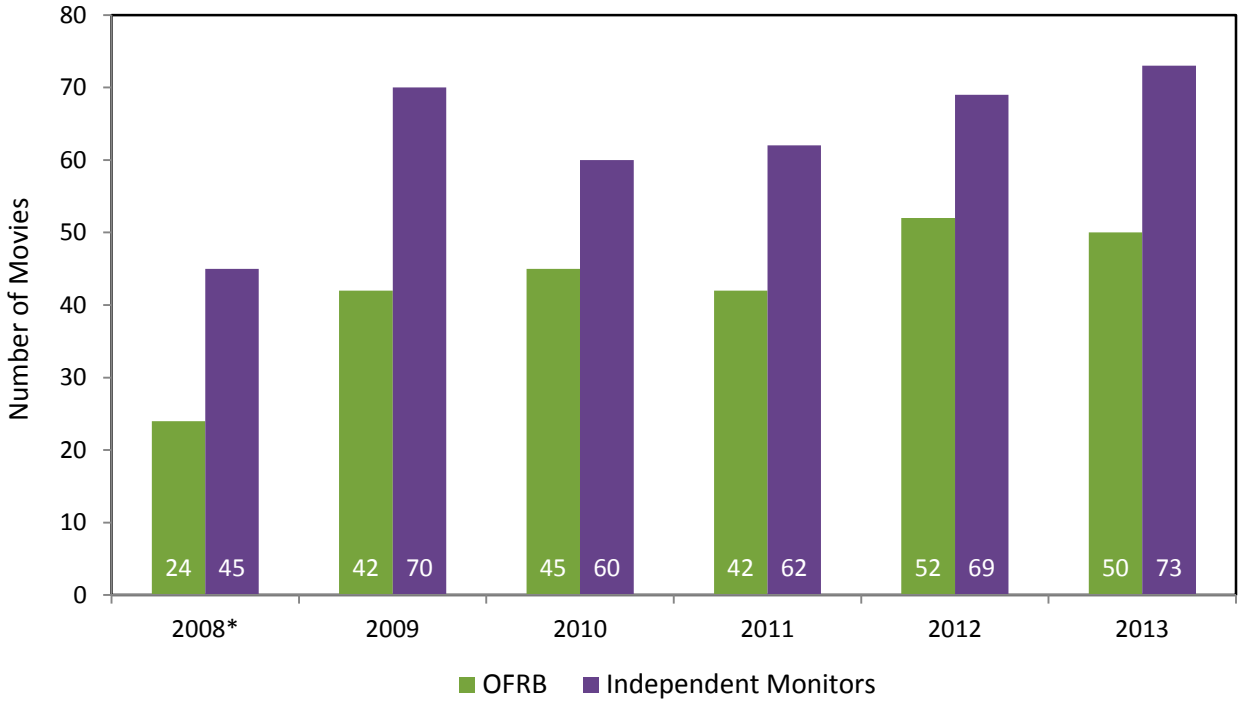
Comparison of the OFRB Tobacco-Related Alerts with Independent Monitors' Reports

We compared the numbers of movies that received OFRB tobacco-related 'detail observations' and 'content advisories' with the number identified as having tobacco content by independent monitors of the *Thumbs Up! Thumbs Down!* (TUTD) project at the Breathe California of Sacramento-Emigrant Trails. Specifically, observations of 'tobacco use' and 'illustrated or verbal references to drugs, alcohol or tobacco' and advisories of 'tobacco use' issued by the OFRB were examined. The 749 top-grossing movies released between August 15, 2008 (the start date of 'tobacco use' observations) and December 31, 2013 were used to examine the use of the policy of 'detailed observations' and the 237 movies released from March 12, 2012 to December 31, 2013 were used to analyse the occurrence of the 'tobacco use' advisory.

The analysis found discrepancies between the number of movies with 'tobacco use' observations issued by the OFRB and the number of movies with tobacco imagery identified by independent monitors. The independent monitors found that half of the movie sample (51%, 379/749) contained tobacco incidents, while the OFRB tagged only one-third of the movies in the sample (34%, 255/749) with a 'tobacco use' observation. Figure 5 compares the number of movies that the OFRB tagged with 'tobacco use' observations and the number deemed to include tobacco incidents by independent monitors, from 2008 to 2013.

As seen in Figure 5, since the OFRB started including 'tobacco use' in the list of 'detailed observations' in August 2008, the number of movies receiving this alert from the OFRB has been consistently lower than the number of movies whose tobacco content was confirmed by independent monitors. The OFRB has tagged between 29% (42/144 in 2009) to 38% (52/136 in 2012) of movies with 'tobacco use' observations; independent content monitors have noted tobacco use in as many as 69% (45/65 in 2008) to as few as 44% (60/135 in 2010) of top-grossing movies over the same period.

Figure 5: Movies with OFRB 'Tobacco Use' Detailed Observations vs. Movies with Independently-Reported Tobacco Incidents, among 749 Movies Released in 2008-2013



* From Aug 15, 2008

Of those 255 movies to which 'tobacco use' observations were issued by the OFRB, the independent monitors identified 249 as containing tobacco incidents. The independent monitors did not include six movies based on their monitoring methodology; in some, for example, the product being smoked was determined to represent marijuana, not tobacco. Therefore, OFRB only implemented 'tobacco use' observations in 66% (249/379) of movies that independent monitors identified as including tobacco incidents.

The higher the number of tobacco incidents identified by the independent monitors in a movie, the more likely it is that the OFRB has issued 'tobacco use' observations (Figure 6). While 37% (55/147) of movies with 1-9 tobacco incidents were tagged with 'tobacco use' observations, 79% of those with 10-29 tobacco incidents, 83% of those with 30-49 tobacco incidents and 89% of those with more than 50 tobacco incidents were tagged.

In addition, movies with tobacco incidents that were rated 14A and 18A were more likely (71% and 68% respectively) tagged with 'tobacco use' observations than those rated PG or G (59% and 17% respectively) (Figure 7).

Figure 6: Movies with OFRB 'Tobacco Use' Detailed Observations vs. Those Without, by Tobacco Incidents, among Movies Having Tobacco Incidents Reported by Independent Monitors

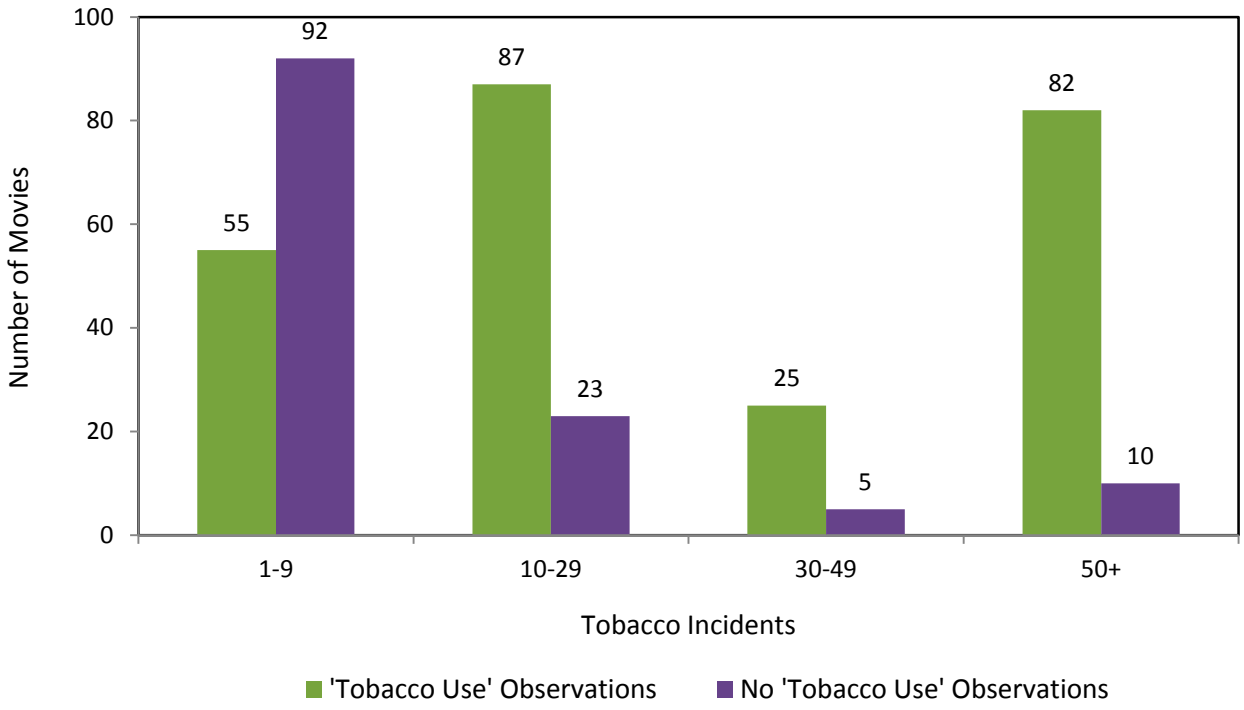
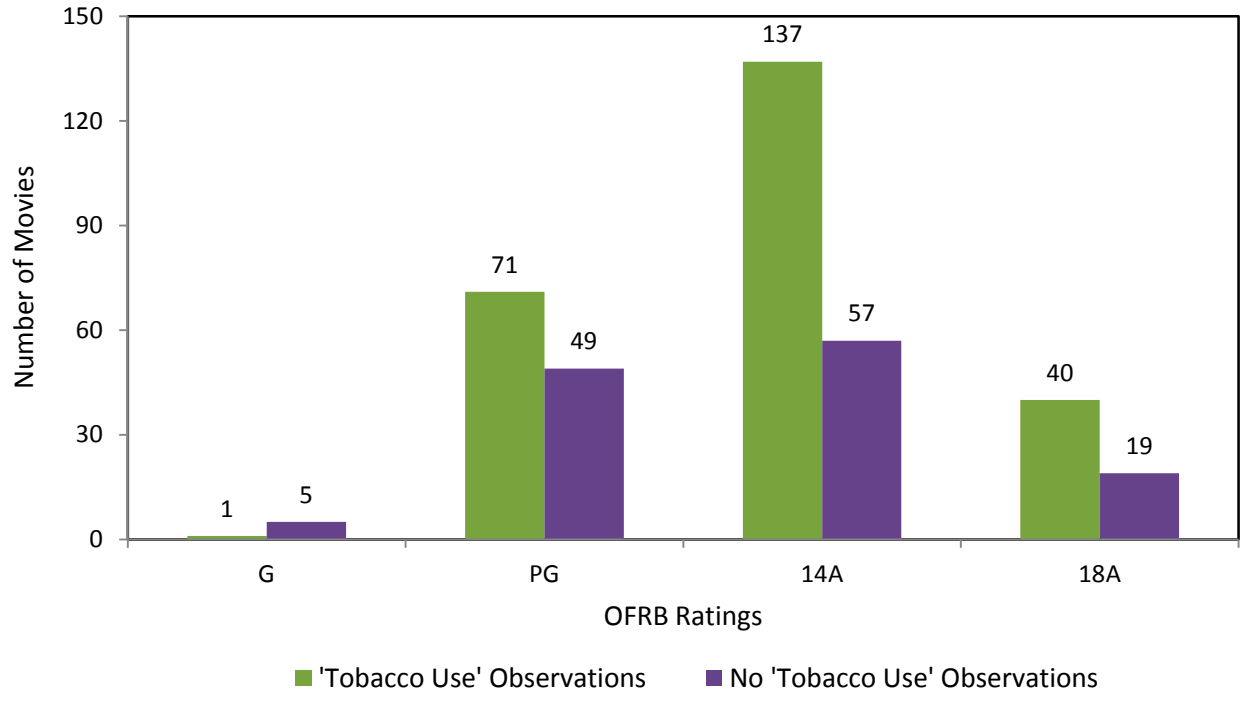
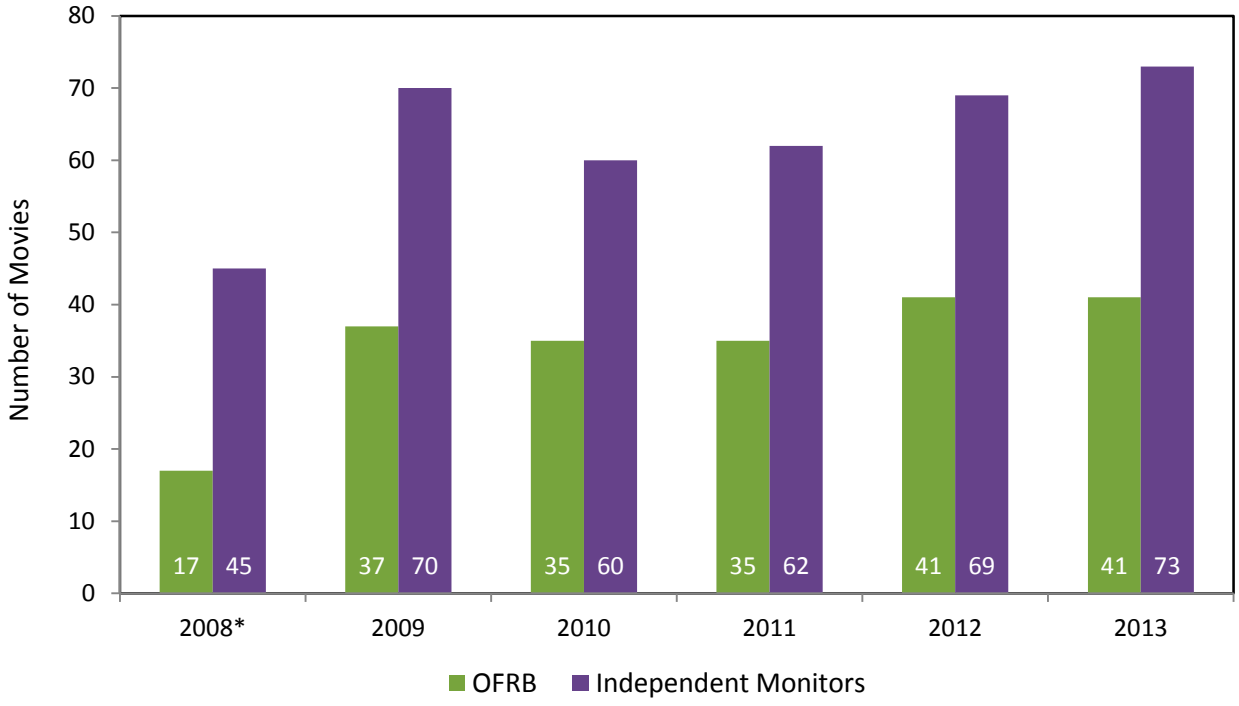


Figure 7: Movies with OFRB 'Tobacco Use' Detailed Observations vs. Those Without, by OFRB Rating, among Movies Having Tobacco Incidents Reported by Independent Monitors



Between August 15, 2008 and the end of 2013, the OFRB has issued detail observations of 'illustrated or verbal references to drugs, alcohol or tobacco' to 28% (206/749) of top-grossing movies released to Ontario theatres whereas independent monitors reported that many more movies (51%, 379/749) included tobacco incidents.[iii] For each year reviewed, fewer movies were tagged for drugs, alcohol or tobacco by the OFRB than were reported to contain tobacco incidents by independent monitors (Figure 8).

Figure 8: Movies with OFRB 'Illustrated or Verbal References to Drugs, Alcohol or Tobacco' Detailed Observations vs. Movies Independently-Reported with Tobacco Incidents, 2008-2013



* From Aug 15, 2008

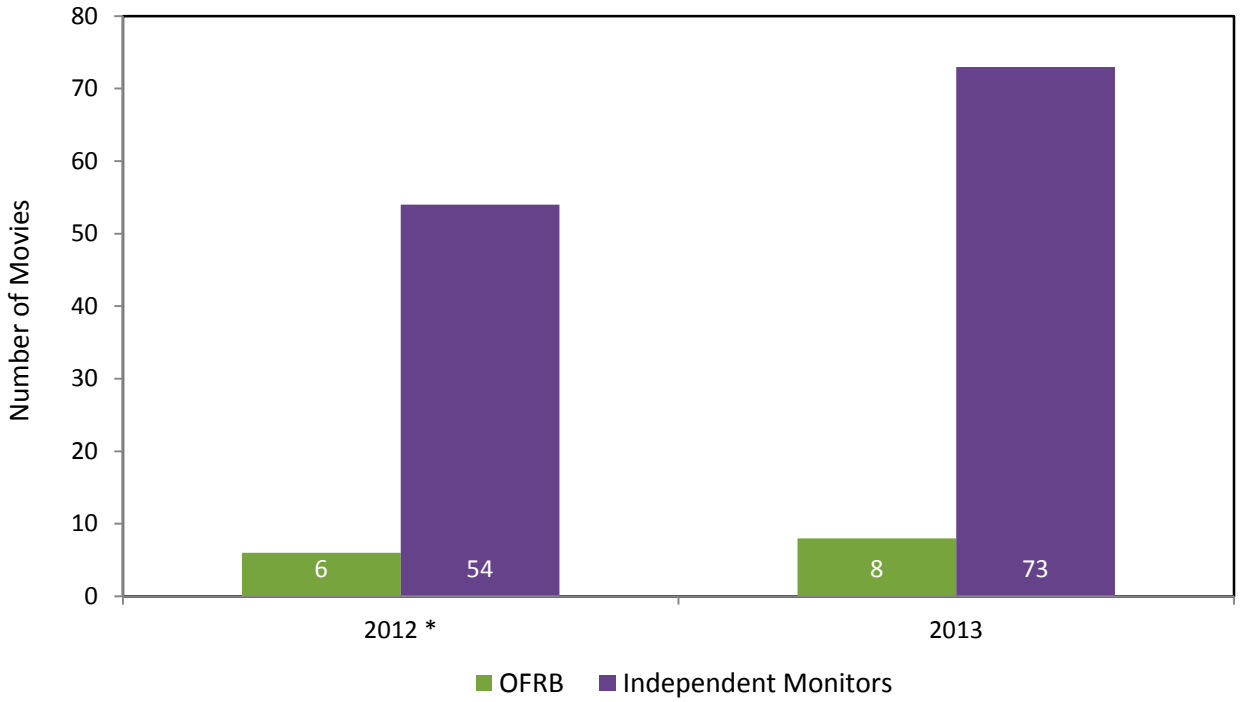
Of the 206 movies (shown in Figure 8) for which the OFRB implemented detail observations of 'illustrated or verbal references to drugs, alcohol or drugs', only 149 were classified as having tobacco incidents by independent monitors. The OFRB may have implemented detail observations to the remaining 57 movies because of the occurrence of drugs and alcohol and not because of tobacco. For the 149 movies reported having tobacco incidents, it is unclear if the OFRB issued observations because of drugs, alcohol or tobacco. Nevertheless, the OFRB implemented detail observations to 39% (149/379) of movies that the independent monitors identified as having tobacco incidents. Of those 149 movies, 102 were also tagged with observations of 'tobacco use'. If both types of detail observations were taken into consideration,

[iii] From January 1 to August 14 in 2008, 80 movies were released. OFRB issued observations of 'illustrated or verbal references to drugs, alcohol or tobacco' to 16 (20%) of them whereas independent monitors reported 41 (51%) of them have tobacco incidents.

OFRB issued tobacco related observations to 78% (296/379) of the movies that independent monitors identified as depicting tobacco imagery.

Since the implementation of an OFRB 'tobacco use' content advisory in March 2012 to end of 2013, a total of 237 top grossing movies were released in Ontario. The OFRB issued 'tobacco use' advisories to 14 (or 6%) of these movies, while independent monitors reported that 127 (54%) of them contained tobacco incidents. In summary, OFRB issued 'tobacco use' content advisories for only 11% (14/127) of the movies that independent monitors identified as containing tobacco incidents (Figure 9).

Figure 9: Number of Movies with an OFRB 'Tobacco Use' Content Advisory vs. Movies Independently-Reported with Tobacco Incidents, among 237 Movies Released in 2012-2013



* From Mar 12, 2012

From 2012 to 2013, the share of movies with the OFRB's 'tobacco use' advisories remained unchanged at 6% (partial year 2012: 6/102; 2013: 8/135). Over the same period, independent monitors using the same sample of movies reported 53% (54/102) of the 2012 movies and 54% (73 /135) of 2013 movies included tobacco incidents.

For the 14 movies (6 in 2012 and 8 in 2013) that OFRB issued a 'tobacco use' advisory, the agency concurrently issued 'tobacco use' observations. Only five of the movies were issued observations of 'illustrated or verbal references to drug, alcohol or tobacco.'

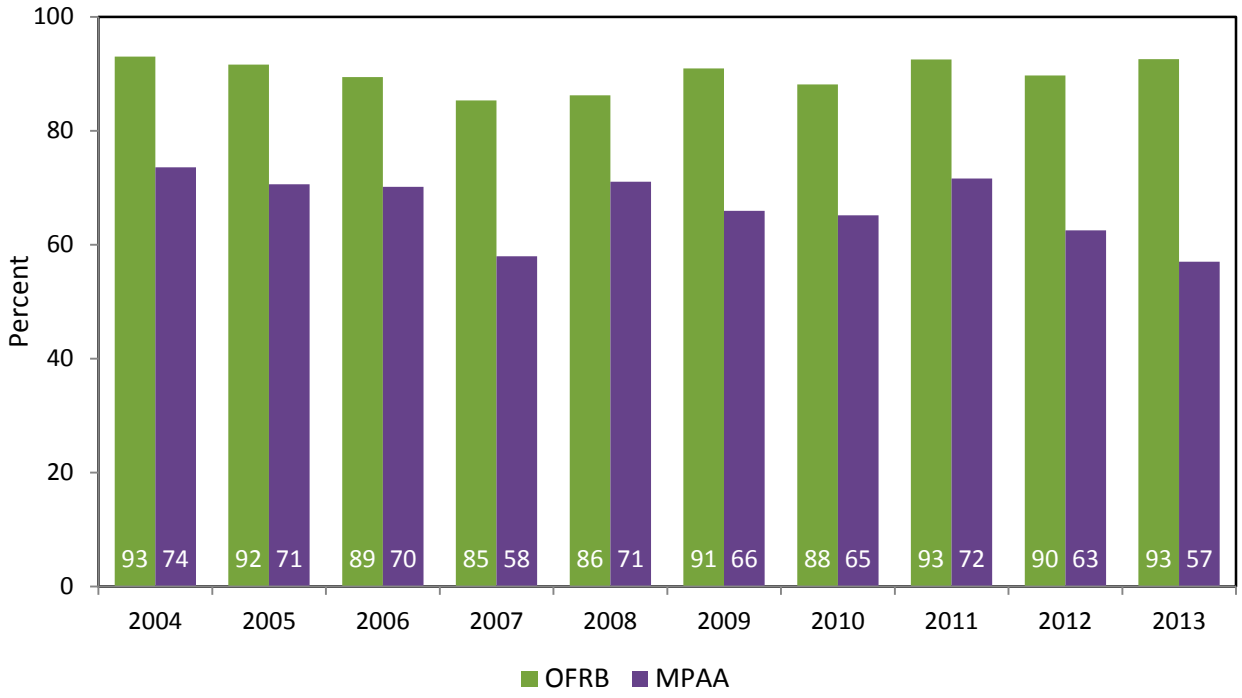
Movies with 50 tobacco incidents or more as reported by independent monitors were more likely to have OFRB issued 'tobacco use' content advisories (22%, 8/37) than those with 10-29 tobacco incidents (12%, 4/34) or movies with 1-9 incidents (4%, 2/48). None of the eight movies with 30-49 tobacco incidents were issued 'tobacco use' advisories. In addition, movies with tobacco incidents were more likely tagged with 'tobacco use' advisories among PG rated movies (21%, 7/34) than 18A (10%, 2/20) and 14A movies (7%, 5/71).

Comparison of Tobacco Incidents and Tobacco Impressions in Ontario and US

OFRB vs. MPAA Rating

Figure 10 shows the percentage of all movies in the sample from 2004 to 2013 that were youth-rated by the OFRB and by the Motion Picture Association of America (MPAA), the trade association for the major US movie studios, which runs the age-classification regime in the US.[iv]

Figure 10: Percentage of Movies Youth-rated in Ontario and US, 2004-2013



[iv] Four movies were not rated (NR) in the US but rated PG in Ontario. Since NR films are almost always of a mature/adult nature, we combined R and NR values when reporting "R-rated" movies in US. Two of these four movies have tobacco content for a total of 16 incidents with 5.8 million tobacco impressions for US and 249,000 tobacco impressions for Ontario.

From 2004 to 2013, the OFRB rated 90% (1289/1434) of the top-grossing movies shown in both Ontario and the United States as appropriate for youth; 44% of all movies were rated PG, 35% were rated 14A and 11% were rated G.

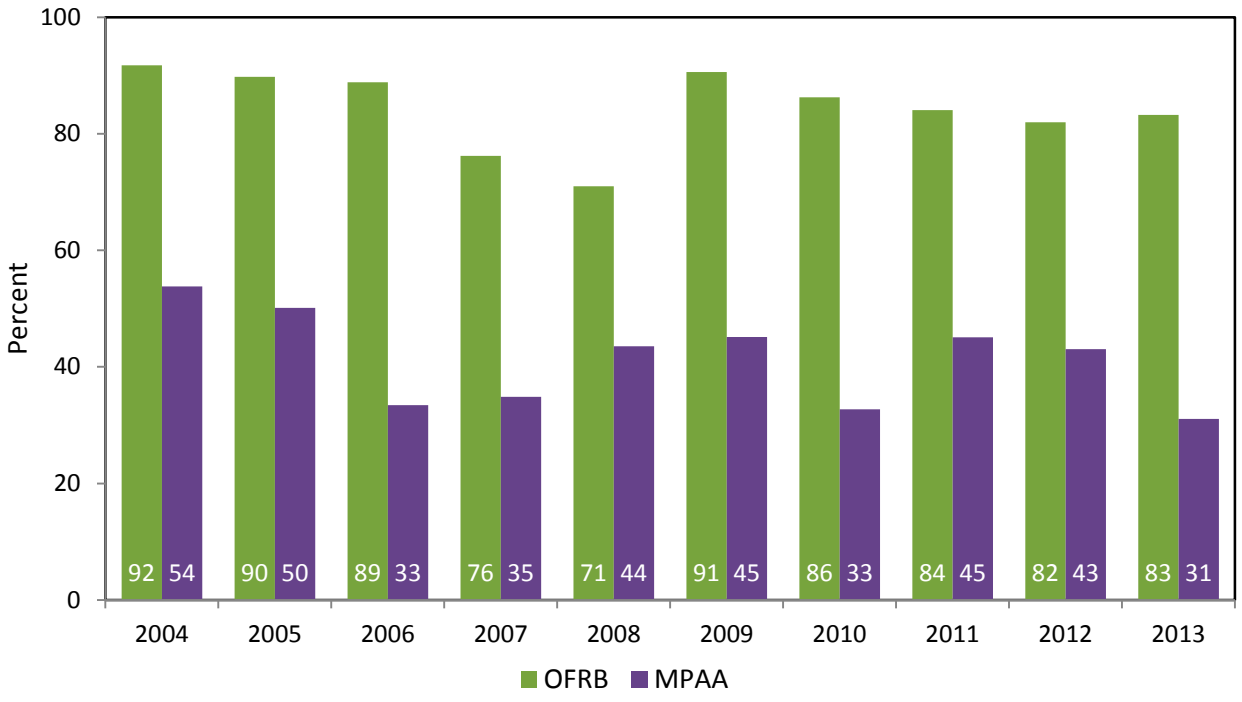
In comparison, the MPAA rated 67% (955/1434) of the same movie sample as appropriate for youth; 45% of all movies were rated PG-13, 18% rated PG, and 3% rated G (percentage may not add up due to rounding).

From 2004 to 2013, the percentage of youth rated movies in Ontario was greater than that in the US because 70% (334/479) of adult-rated (R rated) movies in US were given a youth rating in Ontario. Ninety-seven percent (324/334) of these "down rated" movies were classified as 14A in Ontario.

Tobacco Incidents

The percentage of incidents in youth-rated movies in Ontario and in US over time is shown in Figure 11. In Ontario, 85% (22757/26850) of all tobacco incidents in top-grossing movies released to theatres from 2004 to 2013 were found in youth-rated movies, including 52% rated 14A, 31% rated PG and 2% of G rated movies. The percentage of incidents in the OFRB youth-rated movies slipped in 2007 and 2008 but soon bounced back to over 80%.

Figure 11: Percentage of Tobacco Incidents in Youth-rated Movies in Ontario and US, 2004-2013



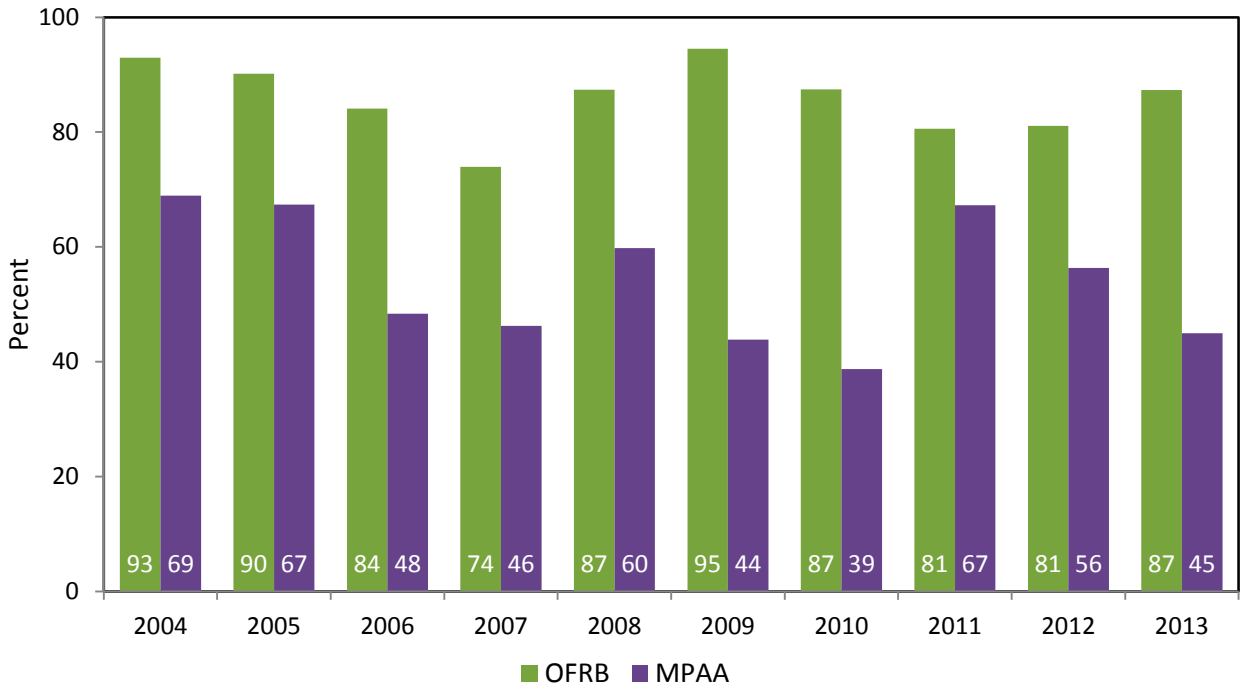
It is striking that for the sample of movies reviewed, tobacco incidents found in movies youth-rated in the US (11186 of 26850 incidents), were less than half of that in Ontario In the US, youth rated movies accounted for 42% of all tobacco incidents, with 37% in PG-13, and 5% in PG and G rated movies (more than 4% in PG movies). In comparison to Ontario, the percentage of incidents in MPAA youth-rate movies showed more variation over time.

Ontario's rating practices have made more than two-thirds of US R-rated movies more accessible to young Ontario audiences. Since these movies include more smoking than PG-13 movies on average,[14] this has potentially increased Ontario youth's exposure to onscreen tobacco imagery substantially compared to their US counterparts.

Tobacco Impressions

Because of the OFRB's movie classification practices, youth-rated movies delivered 7 billion tobacco impressions to Ontario theatre audiences between 2004 and 2013; 86% (7.0/ 8.1 billion) of all in-theatre tobacco impressions delivered over the survey period. PG rated movies delivered 44% of tobacco impressions, 14A movies delivered 41% and G rated movies delivered 1% (Figure 12). In contrast, in the US, youth-rated movies delivered 55% (106/191 billion) of all in-theatre tobacco impressions.

Figure 12: Percentage of In-Theatre Tobacco Impressions Delivered by Youth-rated Movies, in Ontario and US, 2004-2013



Adolescent Smoking and Premature Deaths Attributable to Onscreen Tobacco in Movies

We estimated the impact of tobacco imagery in movies based on the attributable risk fraction of 37% of youth smokers being recruited to smoking because of the exposure (Table 2). Over the seven years (2005 and 2007 to 2012) for which data were available from the Canadian Community Health Survey, the number of smokers age 12-17 in Ontario who were recruited to smoking because of exposure to onscreen smoking was on average 13,241 smokers for a year.

Tobacco use will eventually kill 32% of age 12-17 smokers, half before age 70 and half after. For the seven years under study, we projected that exposure to onscreen smoking will cause, on average, 4,237 premature deaths among Ontarians aged 12-17.

Table 2: Estimated Numbers of Ontarians Aged 12-17 Recruited to Smoking Because of Exposure to Onscreen Smoking and Projected Premature Deaths

	Year							
	2005	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**Average over 7 years**
Number of smokers,[a] age 12-17	51,500	38,800	32,000	44,100	40,100	22,800	21,200	35,786
Number of smokers age 12-17 recruited to smoking[b]	19,055	14,356	11,840	16,317	14,837	8,436	7,844	13,241
Number of premature deaths attributed to smoking in moves[c]	6,098	4,594	3,789	5,221	4,748	2,700	2,510	4,237

[a] Someone who has smoked at least 100 cigarettes in his or her life and smoked within the last 30 days
[b] Multiplying the number of smokers by 0.37 (details in Method Section)
[c] Multiplying the number of smokers recruited to smoking by 0.32 (details in Method section)

Discussion

The study results indicate that in the ten-year survey period from 2004 to 2013, more than half (57%) of top-grossing movies in Ontario featured onscreen tobacco – and that 86% of the movies with onscreen tobacco were youth-rated. Eighty-five percent of tobacco incidents and 86% of the tobacco impressions delivered to Ontario theatre audiences came from movies that were youth rated by the Ontario Film Review Board.

The study found discrepancies between the tobacco-related labels posted by the OFRB and the tobacco content reported by independent monitors. The OFRB tended to issue tobacco related detailed observations and content advisories for movies with a higher number of tobacco incidents. Further exploration is warranted to better understand the OFRB practice of applying tobacco alerts to movies.

Our estimates of the impact of onscreen tobacco in movies is substantial: on average, 13,241 adolescent smokers in a year and a subsequent 4,237 premature deaths could be prevented if there were no onscreen smoking exposure. Yet, other factors need consideration. There is a dose-response relationship between onscreen tobacco exposure and youth smoking. In Ontario where the rating system is less conservative than that in the US, the risk of youth smoking attributable to exposure to onscreen tobacco in movies is probably higher than the 37% derived from US studies. The UK, whose rating system is also less conservative than the US, has encountered a similar scenario.[15] In addition, the absence of conventional cigarette advertising in Ontario may increase the relative importance of movies as a promotion medium and thereby increase the attributable risk fraction.

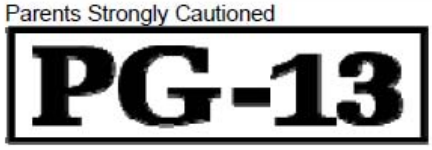
The Smoke-Free Ontario Scientific Advisory Committee notes that an effective way to reduce youth exposure to onscreen tobacco in Ontario is to require adult ratings (18A in Ontario) for movies with any tobacco imagery. This policy measure has been recommended by public health stakeholders and institutions provincially, nationally and internationally.[10,11,12] The 2014 US Surgeon General Report has estimated 5.6 million youth (17 and younger) alive in the US now will die prematurely because of smoking and that a US R rating for movies with tobacco content in the United States would cut youth smoking by 18%. This means that in the US, an R rating for smoking would avert 1 million tobacco deaths in the nation's rising generation.[4]

In Ontario – based on the same projection and with greater potential exposure afforded by the OFRB rating practices – adult rating (18A) of future movies with smoking would have, proportionately, an even greater impact.

Moreover, the public appears to be supportive of this measure as 52% of adults in Ontario agreed that movies with tobacco should be rated as restricted (R).[19]

Appendix 1: Movie Rating Systems

Figure 13: OFRB & MPAA Rating Systems

Ontario Film Review Board rating system		Motion Picture Association of America rating system	
	Suitable for viewers of all ages.	General Audiences 	Nothing that would offend parents for viewing by children.
	Parental guidance is advised. Theme of content may not be suitable for all children.	Parental Guidance Suggested 	Parents urged to give "parental guidance." May contain some material parents might not like for their young children.
	Suitable for viewing by persons 14 years of age and older. Persons under 14 must be accompanied by an adult. May contain: violence, coarse language and/or sexually suggestive scenes.	Parents Strongly Cautioned 	Parents are urged to be cautious. Some material may be inappropriate for pre-teenagers.
	Suitable for viewing by persons 18 years of age and older. Persons under 18 may attend but must be accompanied by an adult. May contain: explicit violence, frequent coarse language, sexual activity and/or horror.	Restricted 	Contains some adult material. Parents are urged to learn about the film before taking their young children with them.
	Admittance restricted to persons 18 years of age and over. Content not suitable for minors. May contain: frequent use of sexual activity, brutal/graphic violence, intense horror and/or other disturbing content.	No One 17 And Under Admitted 	Patently adult. Children are not admitted.

Source: http://smokefreemovies.ca/content/our-current-ratings-system

Figure 14: OFRB Rating Classification Guideline

Quick Reference Guide To The Elements

	G General	PG Parental Guidance	14A	18A	R Restricted	POSSIBLE INFO PIECES
Age Suitability	Suitable for All	Parental Guidance Advised	Persons younger than 14 must be accompanied by an Adult.	Persons younger than 18 must be accompanied by an adult	Restricted to persons 18 years of age or over	• Not Recommended for Children • Not Recommended for Young Children • Some Scary Scenes • Cartoon/ Animation Action • Mature Theme • Language May Offend • Coarse Language • Language not evaluated • Subtitled • Crude Content • Violence • Graphic Violence • Brutal Violence • Sexual Violence • Nudity • Sexual Content • Explicit Sexual Content • Gory Scenes • Frightening Scenes • Disturbing Content • Substance Abuse • Tobacco Use
Language	Infrequent use of mild profanity such as dam, damn, hell, ass and god.	Use of expletives, such as bastard, shit, f***k (X3), and/or limited slurs, mild sexual references. Blasphemy. Derogatory portrayals. such as fatso and tubby.	Coarse language and/or slurs directed to specific segments of society; excessive use of expletives; sexual references. Infrequent strong, aggressive language. Derogatory portrayals such as lard ass and those.	Very intense and aggressive coarse language usually accompanied by violence directed towards the person(s). Aggressive/ frequent slurs/sexual references.	No restriction.	
Violence (see Note 3)	Restrained portrayals of limited violence which may result in extremely limited bloodletting.	Restrained portrayals of non-graphic violence. The portrayals are not prolonged; there are no close-ups; bloodletting and/or tissue damage is limited.	Portrayals of graphic violence resulting in blood-letting and/or tissue damage which may or may not be fatal. Violence should be within the context of the film.	Frequent and/or prolonged portrayals of graphic violence resulting in bloodletting and/or tissue damage. Limited instances of brief, visually explicit portrayals of violence. Graphic torture/ brutality. Graphic sexual violence.	Visually explicit portrayals of violence which may be characterized by extreme brutality, extreme bloodletting and extreme tissue damage, torture, horror and sexual violence.	
Nudity	Non-sexual nudity with no close-ups (including still images.)	Nudity in a non-sexual context, non-exploitative close-up (including still images.)	Limited nudity in a brief sexual situation.	Limited instances of nudity in a sexual situation.	Nudity in a sexual situation.	
Sexual Activity	Limited embracing and kissing .	Embracing, kissing; mild sexual innuendo.	Fondling, implied sexual activity; sexual innuendo.	Limited instances of simulated sexual activity.	Simulated sexual activity; explicit sexual activity.	
Horror	Brief moments of mild horror in comedic, historic, or fantasy settings (i.e. dragons, giants, wicked witches.)	Scenes containing some grotesque images may be allowed in a fantasy or comedic context, but there will be no detailed and/or prolonged focus on gory images or suffering.	Occasional gory moments and some horrific/grotesque images, but these will not be detailed.	Gory or grotesque imagery may be more frequent or detailed, but will generally avoid prolonged focus.	Frequent detailed gory/ grotesque images will have a more prolonged or graphic focus and greater frequency.	
Psychological Impact (see Note 2)	Sensitive to scenes or situations related to a child's sense of security and well-being. Tobacco use. (May be used with any classification.)	Scenes and situations that may cause adverse psychological impact on children. May include frightening or emotionally upsetting situations involving threats, injury, illness, family problems, or death to young people, family member, and animals (particularly pets.) Bullying. Substance referencing. Visual reference. Crude Content.	Occasional upsetting scenes that will tend to be more frightening, intense, disturbing - particularly to younger viewers. Substance abuse. Frequent substance referencing.	Frequent upsetting, disturbing, or frightening scenes that may cause adverse psychological impact on some mature viewers. Detailed/ graphic portrayals of substance abuse.	Scenes and situations may cause extreme adverse psychological impact. May involve intense and compelling terror, acts of degradation, threats of violence, and continuous acts of violence; situations could be accompanied by coarse, abusive, and degrading dialogue. Explicit substance abuse.	

Note 1: From time to time, guidelines may be set aside at the Panel's discretion (where social, historic and documentary significance warrants). The reason is to be identified on the Summary Report.

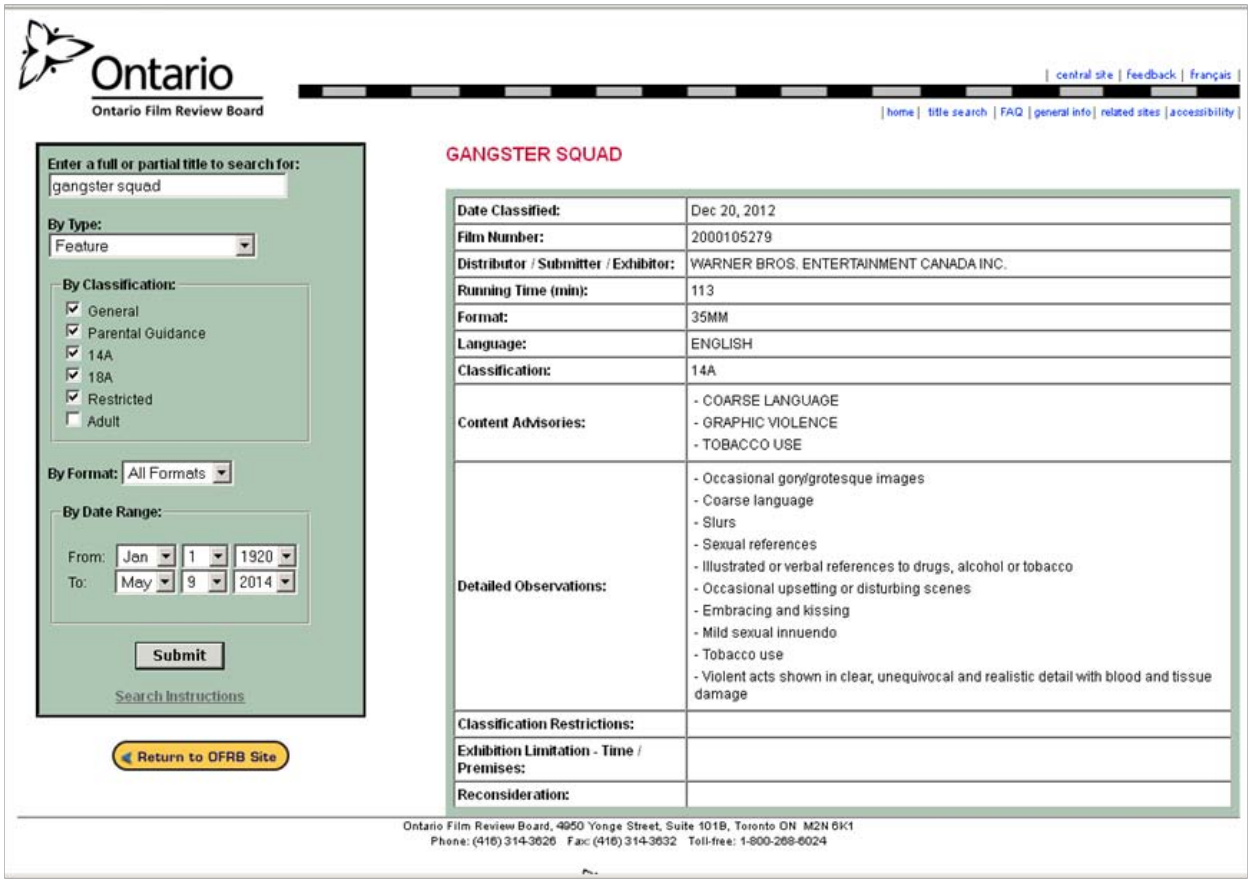
Note 2: Psychological impact may be a state of mind, mood or feeling and/or other effects on the viewer, resulting from the treatment of scenes and situations within the film. Treatment may include intensity, degree, pace, atmosphere, tone, visual effects, and dialogue.

Note 3: Portrayals of violence may include armed combat, natural disasters, accidents, hand-to-hand combat, weapons violence, and violent sports. The degree, frequency, and intensity of the acts of violence will be factors in the classification decision.

Source: http://www.ofrb.gov.on.ca/english/classification_guideline_en.pdf

Appendix 2: OFRB Tobacco Related Detailed Observations and Content Advisory

Figure 15: Example Extracted from the OFRB Online Database



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Enter a full or partial title to search for:
gangster squad

By Type:
Feature

By Classification:
- [x] General
- [x] Parental Guidance
- [x] 14A
- [x] 18A
- [x] Restricted
- [ ] Adult

By Format: All Formats

By Date Range:
From: Jan 1 1920
To: May 9 2014

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Search Instructions

Return to OFRB Site

GANGSTER SQUAD

Date Classified:	Dec 20, 2012
Film Number:	2000105279
Distributor / Submitter / Exhibitor:	WARNER BROS. ENTERTAINMENT CANADA INC.
Running Time (min):	113
Format:	35MM
Language:	ENGLISH
Classification:	14A
Content Advisories:	- COARSE LANGUAGE - GRAPHIC VIOLENCE - TOBACCO USE
Detailed Observations:	- Occasional gory/grotesque images - Coarse language - Slurs - Sexual references - Illustrated or verbal references to drugs, alcohol or tobacco - Occasional upsetting or disturbing scenes - Embracing and kissing - Mild sexual innuendo - Tobacco use - Violent acts shown in clear, unequivocal and realistic detail with blood and tissue damage
Classification Restrictions:	
Exhibition Limitation - Time / Premises:	
Reconsideration:	

Ontario Film Review Board, 4950 Yonge Street, Suite 101B, Toronto ON M2N 6K1
Phone: (416) 314-3626 Fax: (416) 314-3632 Toll-free: 1-800-268-6024

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Preventing Tobacco Use Among Youth and Young Adults

A Report of the Surgeon General

Executive Summary

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Message from Kathleen Sebelius

Secretary of Health and Human Services

Tobacco is the leading cause of preventable and premature death, killing an estimated 443,000 Americans each year. Cigarette smoking costs the nation $96 billion in direct medical costs and $97 billion in lost productivity annually. In addition to the billions in medical costs and lost productivity, tobacco is enacting a heavy toll on young people.

Each day in the United States, over 3,800 young people under 18 years of age smoke their first cigarette, and over 1,000 youth under age 18 become daily cigarette smokers. The vast majority of Americans who begin daily smoking during adolescence are addicted to nicotine by young adulthood. Despite the well-known health risks, youth and adult smoking rates that had been dropping for many years have stalled. When this Administration took office, we decided that if these numbers were not changing, we had to do something. We accelerated our efforts to fight tobacco by helping Americans stop smoking and protecting young people from starting to smoke.

The first step was the historic Family Smoking Prevention and Tobacco Control Act which gives the U.S. Food and Drug Administration the authority to regulate tobacco products to prevent use by minors and reduce the impact on public health. The law includes many vital provisions, including a ban on cigarettes with certain characterizing flavorings such as candy and fruit, restrictions on the sale of single cigarettes and the prohibition of marketing practices aimed at children. The Family Smoking Prevention and Tobacco Control Act also provides for graphic warning labels that make the danger of smoking abundantly clear.

Second, as part of the Recovery Act, the Department of Health and Human Services (HHS) invested $225 million to support tobacco prevention and control efforts in states. These investments were made in communities that have used evidence-based tobacco interventions and will eventually become models for the rest of the country.

The third step was the Affordable Care Act, which provides a new opportunity to transform how our nation addresses tobacco use through the Prevention and Public Health Fund. The law expands access to recommended treatment programs, such as tobacco use cessation, often at no additional cost. For the first time, Medicare and Medicaid will cover tobacco use cessation for all beneficiaries. The health care law also provides support for state 1-800 quitlines and implementation of innovative social media initiatives including text messaging and smart phone applications.

We are using the many tools at our disposal, from regulatory power to state and local investments, to end the tobacco epidemic. In November 2010, HHS announced the Department's first ever comprehensive tobacco control strategic action plan, titled Ending the Tobacco Epidemic, which will help us bring all of these strategies together to achieve our goals. An important component of our HHS plan focuses on preventing the initiation of tobacco use among young people, through hard-hitting mass media campaigns that will discourage our country's youth from starting to use tobacco products and motivate current tobacco users to quit. This key strategic action, combined with others in the plan, signify HHS's commitment to provide a clear roadmap for the future of tobacco prevention and control.

We have come a long way since the days of smoking on airplanes and in college classrooms, but we have a long way to go. We have the responsibility to act and do something to prevent our youth from smoking. The prosperity and health of our nation depend on it.

Message from Howard Koh

Assistant Secretary for Health

Tobacco use imposes enormous public health and financial costs on this nation—costs that are completely avoidable. Until we end tobacco use, more young people will become addicted, more people will become sick, and more families will be devastated by the loss of loved ones.

The simple fact is that we cannot end the tobacco epidemic without focusing our efforts on young people. Nearly 100% of adults who smoke every day started smoking when they were 26 or younger, so prevention is the key. The tobacco industry spends almost $10 billion a year to market its products, half of all movies for children under 13 contain scenes of tobacco use, half of our states continue to allow smoking in public places, and images and messages normalize tobacco use in magazines, on the Internet, and at retail stores frequented by youth. With a quarter of all high school seniors and a third of all young adults smoking, and with progress in reducing prevalence slowing dramatically, the time for action is now.

This Surgeon General's Report is an important addition to our base of knowledge on the prevalence, causes, effects, and implications of tobacco use by young people. It elucidates in powerful detail the factors that lead youth and young adults to initiate tobacco use, and the devastating health and economic impact of that decision on our nation as well as on individuals, their families, and their communities. This report also identifies proven, effective strategies that hold the potential of dramatically reducing tobacco use.

The Department's overall tobacco control strategy is to strengthen and fully implement these proven, effective strategies as part of a comprehensive approach that combines educational, clinical, regulatory, economic, and social initiatives. In November 2010, the Department released *Ending the Tobacco Epidemic: A Tobacco Control Strategic Action Plan for the U.S. Department of Health and Human Services* which provides a framework for coordinating this approach. The plan sets forth specific actions which HHS can implement to build on recent legislative milestones, respond to the changing market for tobacco products, and promote robust tobacco control programs at the federal, state, and community levels.

From 1997 to 2004 youth smoking fell rapidly. Since that time smoking among high school seniors has continued to fall, but slowly from 24.4% in 2003 to 18.7% in 2010 (daily smoking among youth has fallen from 16.8% in 1999 to 7.3% in 2009). Since 2003 prevalence among adults has fallen from 21.6 to 19.3% in 2010 The current problem is not that the evidence-based tools that drove the progress from 1997 to 2004 stopped working; it is that they have not been applied with sufficient effort or nationwide. That these tools still work is reflected in the fact that many states have seen significant reductions since 2005. Between 2005 and 2010 twenty states had declines of 20% or more.

Even with decades of progress and recent tobacco control initiatives, however, we must do more. We have ample evidence that comprehensive, multi-component interventions are effective at reducing tobacco use. But knowledge is not enough. We must also have commitment—the commitment to sustain comprehensive programs, to give our young people another perspective on tobacco, to create an environment that makes it harder for youth to smoke, to make cessation services accessible and affordable. It is within our grasp to make the next generation tobacco-free if we have the will to do so.

Foreword

Preventing smoking and smokeless tobacco use among young people is critical to ending the epidemic of tobacco use. Since the first Surgeon General's report on youth in 1994, the basis for concern about smoking during adolescence and young adulthood has expanded beyond the immediate health consequences for the young smoker to a deeper understanding of the implications for health across the life span from early use of tobacco. Cigarette smoking remains the leading cause of preventable death in the United States, accounting for approximately 443,000 deaths, or about 1 of every 5 deaths, in the United States each year.

Since 1994, there have been many legal and scientific developments that have curtailed somewhat the tobacco companies' ability to market to young people. The 1998 Master Settlement Agreement eliminated most cigarette billboard and transit advertising, print advertising directed to underage youth, and limited brand sponsorship. In addition, the Master Settlement Agreement resulted in the release of internal tobacco industry documents that have been analyzed by scientists. Furthermore, during this time, the prices of cigarettes and smokeless tobacco products also increased. These significant developments, among others, resulted in a sharp decrease in tobacco use among adults and youth. However, this progress has stalled in recent years.

More than 80% of adult smokers begin smoking by 18 years of age with 99% of first use by 26 years of age. In addition, adolescent smokeless tobacco users are more likely than nonusers to become adult cigarette smokers. Adolescents and young adults are uniquely susceptible to social and environmental influences to use tobacco, and tobacco companies spend billions of dollars on cigarette and smokeless tobacco marketing. The findings in this report provide evidence that coordinated, high-impact interventions including mass media campaigns, price increases, and community-level changes protecting people from secondhand smoke and norms are effective in reducing the initiation and prevalence of smoking among youth. However, many of these comprehensive tobacco control programs remain underfunded. Now more than ever, it is imperative that we continue investing in tobacco prevention and control. An increase in spending on sustained comprehensive tobacco control programs will result in reductions in youth and adult smoking rates and, ultimately, in health care costs.

Reducing tobacco use is a winnable battle. We have the science and, with additional effort and support for evidence-based, cost-effective strategies that we can implement now, we will improve on our nation's health and our children's future.

Thomas R. Frieden, M.D., M.P.H.
Director
Centers for Disease Control and Prevention
and
Administrator
Agency for Toxic Substances and Disease Registry

Preface

from the Surgeon General,
U.S. Department of Health and Human Services

Nearly all tobacco use begins during youth and young adulthood. These young individuals progress from smoking occasionally to smoking every day. Each day across the United States over 3,800 youth under 18 years of age start smoking. Although much progress has been made to reduce the prevalence of smoking since the first Surgeon General's report in 1964, today nearly one in four high school seniors and one in three young adults under age 26 smoke.

Of every three young smokers, only one will quit, and one of those remaining smokers will die from tobacco-related causes. Most of these young people never considered the long-term health consequences associated with tobacco use when they started smoking; and nicotine, a highly addictive drug, causes many to continue smoking well into adulthood, often with deadly consequences.

This Surgeon General's report examines in detail the epidemiology, health effects, and causes of tobacco use among youth ages 12 through 17 and young adults ages 18 through 25. For the first time tobacco data on young adults as a discrete population has been explored. This is because nearly all tobacco use begins in youth and young adulthood, and because young adults are a prime target for tobacco advertising and marketing activities. This report also highlights the efficacy of strategies to prevent young people from using tobacco.

After years of steady decrease following the Tobacco Master Settlement Agreement of 1998, declines in youth tobacco use have slowed for cigarette smoking and stalled for use of smokeless tobacco. The latest research shows that concurrent use of multiple tobacco products is common among young people, and suggest that smokeless tobacco use is increasing among White males.

An important element of this Surgeon General's report is the review of the health consequences of tobacco use by young people. Cigarette smoking by youth and young adults is proven to cause serious and potentially deadly health effects immediately and into adulthood. One of the most significant health effects is addiction to nicotine that keeps young people smoking longer, causing increased physical damage. Early abdominal aortic atherosclerosis has been found in young smokers which affects the flow of blood to vital organs such as the lungs. This leads to reduced lung growth that can increase the risk of chronic obstructive pulmonary disease later in life, and reduced lung function.

This report examines the social, environmental, advertising, and marketing influences that encourage youth and young adults to initiate and sustain tobacco use. Tobacco products are among the most heavily marketed consumer goods in the U.S. Much of the nearly $10 billion spent on marketing cigarettes each year goes to programs that reduce prices and make cigarettes more affordable; smokeless tobacco products are similarly promoted. Peer influences; imagery and messages that portray tobacco use as a desirable activity; and environmental cues, including those in both traditional and emerging media platforms, all encourage young people to use tobacco. These influences help attract youth to tobacco use and reinforce the perception that smoking and various forms of tobacco use are a social norm—a particularly strong message during adolescence and young adulthood.

Many initiatives have been put into place to help counter the influences that encourage young people to begin tobacco use. The Tobacco Master Settlement Agreement in 1998 curtailed much of the advertising that was particularly appealing to young people. With the passage of the 2009 legislation giving the U.S. Food and Drug Administration the authority to regulate tobacco products and tobacco advertising, we now have another important means of helping decrease the appeal of tobacco use to this population. Coordinated, multi-component interventions that include mass media campaigns, comprehensive community programs, comprehensive statewide tobacco control programs, price increases, and school-based policies have also proven effective in preventing onset and use of tobacco use among youth and young adults.

We know what works to prevent tobacco use among young people. The science contained in this and other Surgeon General's reports provides us with the information we need to prevent the needless suffering of premature disease caused by tobacco use, as well as save millions of lives. By strengthening and continuing to build upon effective policies and programs, we can help make our next generation tobacco free.

Regina Benjamin, M.D., M.B.A.
Surgeon General

The Tobacco Epidemic Continues Because Youth and Young Adults Begin to Use—and Become Addicted to—Cigarettes and Smokeless Tobacco Products

Tobacco use is a pediatric epidemic, around the world as well as in the United States. Although progress has been made since the first Surgeon General's report in 1964, too many of our youth still use tobacco. Among U.S. high school seniors, one out of four is a regular cigarette smoker (Youth Risk Behavior Survey [YRBS] 2009, Chapter 3). Because few high school smokers are able to break free from the powerful addicting effects of nicotine, about 80% will smoke into adulthood. Among those who persist in smoking, one-half will die about 13 years earlier than his or her nonsmoking peers (Fagerström 2002; Doll et al. 2004).

In addition to cigarette smoking, use of other forms of tobacco by youth and young adults is epidemic. Nearly one in five White adolescent males (12–17 years old) uses smokeless tobacco (YRBS 2009, Chapter 3), and 1 in 10 young adults (18–25 years old) smokes cigars (National Survey on Drug Use and Health [NSDUH] 2010, Chapter 3). The concurrent use of multiple tobacco products is common, too, with over 50% of White and Hispanic male tobacco users reporting that they use more than one tobacco product (YRBS 2009, see Chapter 3). The numbers are staggering. They translate into over a million new tobacco users a year in the United States alone. But there are proven methods to prevent this epidemic from claiming yet another generation, if our nation has the will to implement those methods in every state and community.

Nearly all tobacco use begins in childhood and adolescence. In all, 88% of adult cigarette smokers who smoke daily, report that they started smoking by the age of 18 (NSDUH 2010, Chapter 3). This is a time in life of great vulnerability to social influences, and the pervasive presence of tobacco product marketing—including everything from sleek ads in magazines to youth-generated posts on social networking sites, to images of smoking in the movies—conveys messages that make tobacco use attractive to youth and young adults.

The first comprehensive Surgeon General's report on youth, *Preventing Tobacco Use Among Young People*, was published in 1994 (U.S. Department of Health and Human Services [USDHHS] 1994). That report concluded that if young people can remain free of tobacco until age 18, most will never start to smoke. The report documented the addiction process for young people and how the symptoms of addiction in youth are similar to those in adults. Use of tobacco was also presented as a gateway drug among young people, because its use generally precedes and increases the risk of illicit drug use. Cigarette advertising and promotional activities were seen as a potent way to increase the risk of cigarette smoking among young people, while community-wide efforts were shown to have been successful in reducing tobacco use among youth. All of these conclusions remain important, relevant, and accurate, as documented in the current report, but there has been considerable research since 1994 that greatly expands our knowledge about tobacco use among youth, its prevention, and the dynamics of cessation among young people. Thus, there is a compelling need for the current report.

Since 1994, multiple legal and scientific developments have altered the tobacco control environment and consequently have affected smoking among youth. All states and the U.S. Department of Justice brought lawsuits against the cigarette companies, with the result that internal documents of the tobacco industry have been made public, analyzed, and introduced into the science of tobacco control. Also, the Master Settlement Agreement with the tobacco companies in 1998 resulted in the elimination of billboard and transit advertising, eliminated print advertising that directly targeted underage youth, and limited the use of brand advertising (National Association of Attorneys General [NAAG] 1998). This settlement also created the American Legacy Foundation, which was charged with implementing a nationwide antismoking campaign targeting youth. In 2009, the U.S. Congress passed a law that gave the U.S. Food and Drug Administration (FDA) authority to regulate tobacco products in order to promote the public's health (*Family Smoking Prevention and Tobacco Control Act* [2009]). Thus, the tobacco companies have, in the U.S., been somewhat curtailed in their ability to market to young people, have had to reimburse the state governments (through agreements made with certain states, the Master Settlement Agreement) for a portion of tobacco-related health care costs. These actions have, in part, resulted in a sharp decrease in tobacco use among adults and among youth, the latter of which is documented in this current report.

In addition, substantial new research has added to our knowledge and understanding of tobacco use and control as it relates to youth since the 1994 Surgeon General's report, including updates and new data in *Healthy People* 2000, 2010, subsequent Surgeon General's reports, in NCI Monographs, in Institute of Medicine reports, and in the Cochrane Collaboration reviews in addition to hundreds of peer-reviewed publications, book chapters, and policy reports. Thus, although this report is a follow-up to the 1994 report, other important reviews have been undertaken in the past 17 years and have served to fill the gap during an especially active and important time in research on tobacco control among youth.

Evidence Summary

This report reviews updated evidence on the: 1) health consequences of tobacco use in youth and young adults, 2) epidemiology of cigarette and smokeless tobacco use among youth and young adults, 3) etiological factors associated with the onset and progression of tobacco use, 4) tobacco industry influences on the use of tobacco by youth, and 5) effective efforts to prevent or reduce tobacco use among youth.

With 99% of all first use of tobacco occurring by age 26 (NSDUH 2010, Chapter 3), if youth and young adults remain tobacco-free, very few people will begin to smoke or use smokeless products. Unfortunately, early use of tobacco has substantial health risks that begin almost immediately in adolescence and young adulthood, including impairment to the respiratory and cardiovascular systems. Many of the long-term diseases associated with smoking, such as lung cancer, are more likely among those who begin to smoke earlier in life (Doll and Peto 1978; Peto 1986; USDHHS 2004). Tobacco use is addictive for young people and, therefore, cessation is problematic and challenging, even for young users, and early quitting is very difficult (Chassin et al. 2000; Mayhew et al. 2000; Riggs et al. 2007). Adolescent and young adult smokers become adult smokers, with the associated and well-documented chronic diseases associated with adult smoking (White et al. 2002). And while young people might believe that smoking is associated with weight loss, the data do not support any reduction in weight among adolescent smokers (Klesges et al. 1998; Cachelin et al. 2003, Cooper et al. 2003; Bean et al. 2008).

One in four high school seniors (YRBS 2009, Chapter 3), and one in three young adults (NSDUH 2010, Chapter 3), are current smokers. While reductions in tobacco use have been realized, particularly since the Master Settlement Agreement in 1998, the data indicate that these reductions have stalled. Importantly, smokeless tobacco use is increasing among young White males and cigar smoking is increasing among Black females. In fact, over half of White and Hispanic high school males who use tobacco use more than one tobacco product, and just under half of Hispanic females who use tobacco use more than one tobacco product, too (YRBS 2009, Chapter 3).

Adolescence and emerging adulthood are stages of life with increased vulnerability to tobacco use. These are times of remarkable growth—physically, mentally, and socially—that are not always synchronous and are complicated because the brain has not yet fully developed (Steinberg 2007). Peer influence is paramount during these life stages, and young people with greater numbers of peers who smoke are more likely to begin to smoke themselves (Landrine et al. 1994; Hu et al. 1995; Killen et al. 1997; Urberg et al. 1997; Flay et al. 1998; Robinson et al. 2006). Those who have fewer pro-social bonds to conventional institutions, such as school or places of worship, are also more likely to use tobacco (Choi et al. 2002; Evans-Whipp et al. 2004; van den Bree et al. 2004; Metzger et al. 2011). This is evidenced by the compelling associations between low academic achievement and smoking onset and use among adolescents (Dewey 1999; Sutherland and Shepherd 2001; Diego et al. 2003; Scal et al. 2003; Cox et al. 2007; Forrester et al. 2007; Tucker et al. 2008). Even exposure to smoking by actors in movies increases the likelihood that a young person will begin to smoke (Sargent et al. 2001, 2005; Hanewinkel and Sargent 2007; Thrasher et al. 2008).

Tobacco companies have capitalized on the vulnerability of this age group to more effectively promote their products. Marketing efforts of the tobacco companies have caused young people to smoke, as demonstrated by extensive cross-sectional and longitudinal research outlined in this report (Armstrong et al. 1990; Aitken et al. 1991; Evans et al. 1995; Schooler et al. 1996; Gilpin et al. 1997, 2007; Pierce et al. 2010). Further, information explicitly revealed in tobacco industry documents makes clear the industry's interest in and efforts to entice young people to use their products (Perry 1999; *United States v. Philip Morris*, 449 F. Supp. 2d 1 [2006]). With young smokers being more price-sensitive than older smokers,

tobacco companies have increasingly focused attention on strategies that reduce the price of tobacco products (Chaloupka et al. 2002; Slater et al. 2007). The tobacco companies' own smoking prevention campaigns have not demonstrated any reduction in adolescent smoking or any evidence of effectiveness (Interactive Inc. 2000, 2001; Mandel et al. 2006).

Effective programs and policies are available and have demonstrated success in reducing youth smoking, though adequate dissemination and sustainability of these successful approaches is currently lacking in nearly all states. Nonetheless, sufficient evidence exists to clearly indicate that coordinated, multi-component interventions that combine mass media campaigns, price increases, school-based policies and programs, community-wide changes, and statewide programs as effective in reducing the initiation, prevalence, and intensity of smoking among youth and young adults.

This report has drawn from the evidence reviewed and has five major conclusions.

Major Conclusions of This Report

1. Cigarette smoking by youth and young adults has immediate adverse health consequences, including addiction, and accelerates the development of chronic diseases across the full life course.

2. Prevention efforts must focus on both adolescents and young adults because among adults who become daily smokers, nearly all first use of cigarettes occurs by 18 years of age (88%), with 99% of first use by 26 years of age.

3. Advertising and promotional activities by tobacco companies have been shown to cause the onset and continuation of smoking among adolescents and young adults.

4. After years of steady progress, declines in the use of tobacco by youth and young adults have slowed for cigarette smoking and stalled for smokeless tobacco use.

5. Coordinated, multicomponent interventions that combine mass media campaigns, price increases including those that result from tax increases, school-based policies and programs, and statewide or community-wide changes in smokefree policies and norms are effective in reducing the initiation, prevalence, and intensity of smoking among youth and young adults.

Chapter Summaries and Conclusions

Chapter 2: The Health Consequences of Tobacco Use Among Young People

While the 1994 Surgeon General's report clearly identified that smoking had immediate and long-term health consequences for young people, further evidence presented in the current report has strengthened these conclusions. Research now documents strong causal associations between active cigarette smoking in young people and addiction to nicotine, reduced lung function, reduced lung growth, asthma, and early abdominal aortic atherosclerosis. These associations have met the criteria for causality first introduced in the 1964 Surgeon General's report: consistency, strength, specificity, temporality, and biological plausibility of the scientific evidence. These are serious social, physical, and mental health problems that manifest during adolescence and young adulthood and are the precursors to other long-term chronic diseases. Smoking is the chief preventable cause of premature death in this country, and the early stages of the diseases associated with adult smoking are already evident among young smokers (Doll and Peto 1978; Peto 1986; USDHHS 2004). For example, young adult smokers under age 30 exhibit signs of and are being diagnosed with early disease of the abdominal aorta, a serious indicator of heart disease (McGill et al. 2000; McMahan et al. 2005, 2006). This chapter also includes a comprehensive review of the associations between smoking and body weight and weight

control methods, given the country's current concern with childhood obesity. While there is ample evidence that young people believe that cigarette smoking will help them control their body weight, there is no evidence that young smokers weigh less or lose weight because of their smoking (Cachelin et al. 2003; Cooper et al. 2003; Klesges et al. 1998; Bean et al. 2008).

Conclusions

1. The evidence is sufficient to conclude that there is a causal relationship between smoking and addiction to nicotine, beginning in adolescence and young adulthood.

2. The evidence is suggestive but not sufficient to conclude that smoking contributes to future use of marijuana and other illicit drugs.

3. The evidence is suggestive but not sufficient to conclude that smoking by adolescents and young adults is *not* associated with significant weight loss, contrary to young people's beliefs.

4. The evidence is sufficient to conclude that there is a causal relationship between active smoking and both reduced lung function and impaired lung growth during childhood and adolescence.

5. The evidence is sufficient to conclude that there is a causal relationship between active smoking and wheezing severe enough to be diagnosed as asthma in susceptible child and adolescent populations.

6. The evidence is sufficient to conclude that there is a causal relationship between smoking in adolescence and young adulthood and early abdominal aortic atherosclerosis in young adults.

7. The evidence is suggestive but not sufficient to conclude that there is a causal relationship between smoking in adolescence and young adulthood and coronary artery atherosclerosis in adulthood.

Chapter 3: The Epidemiology of Tobacco Use Among Young People in the United States and Worldwide

The major national data sets that assess youth and young adult smoking were analyzed to provide updated data for this report. Cigarette smoking is shown, again, to primarily begin in adolescence, and very few adults begin to smoke after age 26 (1%) (NSDUH 2010, Chapter 3). Since the 1994 Surgeon General's report, tobacco use among adolescents and young adults has substantially decreased, especially since 1998. However, there has been a leveling off in the past few years, particularly since 2007, and in some groups there are increases in the prevalence of tobacco use, such as smokeless tobacco use among White males. Some groups of young people continue to smoke more than others, notably American Indians and Alaska Natives, but also Whites and Hispanics. With the introduction of new tobacco products and promotion of smokeless tobacco products, use of multiple tobacco products is common. Among tobacco users, more than one-half of White and Hispanic high school males and almost one-half of Hispanic high school females use more than one product.

Conclusions

1. Among adults who become daily smokers, nearly all first use of cigarettes occurs by 18 years of age (88%), with 99% of first use by 26 years of age.

2. Almost one in four high school seniors is a current (in the past 30 days) cigarette smoker, compared with one in three young adults and one in five adults. About 1 in 10 high school senior males is a current smokeless tobacco user, and about 1 in 5 high school senior males is a current cigar smoker.

3. Among adolescents and young adults, cigarette smoking declined from the late 1990s, particularly after the Master Settlement Agreement in 1998. This decline has slowed in recent years, however.

4. Significant disparities in tobacco use remain among young people nationwide. The prevalence of cigarette smoking is highest among American Indians and Alaska Natives, followed by Whites and Hispanics, and then Asians and Blacks. The prevalence of cigarette smoking is also highest among lower socioeconomic status youth.

5. Use of smokeless tobacco and cigars declined in the late 1990s, but the declines appear to have stalled in the last 5 years. The latest data show the use of smokeless tobacco is increasing among White high school males, and cigar smoking may be increasing among Black high school females.

6. Concurrent use of multiple tobacco products is prevalent among youth. Among those who use tobacco,

nearly one-third of high school females and more than one-half of high school males report using more than one tobacco product in the last 30 days.

7. Rates of tobacco use remain low among girls relative to boys in many developing countries, however, the gender gap between adolescent females and males is narrow in many countries around the globe.

Chapter 4: Social, Environmental, Cognitive, and Genetic Influences on the Use of Tobacco Among Youth

Adolescents and young adults are uniquely vulnerable to influences to use tobacco (Steinberg 2007). As young people move toward adulthood, they increasingly rely on their social contexts and peer groups in adopting or changing behavior. In particular, this chapter documents the potent influence of peer groups, and whether peers in their environment use tobacco and perceive of tobacco use as normative or acceptable. Young people are more likely to use tobacco if their peers use tobacco or are anti-social (Landrine et al. 1994; Hu et al. 1995; Headen et al. 1991; Killen et al. 1997; Urberg et al. 1997; Flay et al. 1998; Robinson et al. 2006). Those with higher academic achievement are less likely to use tobacco (Dewey 1999; Sutherland and Shepherd 2001; Diego et al. 2003; Scal et al. 2003; Cox et al. 2007; Forrester et al. 2007; Tucker et al. 2008). Because of the particular vulnerability of this age group to peer group influences, external messages that target the peer group can be especially potent.

Conclusions

1. Given their developmental stage, adolescents and young adults are uniquely susceptible to social and environmental influences to use tobacco.

2. Socioeconomic factors and educational attainment influence the development of youth smoking behavior. The adolescents most likely to begin to use tobacco and progress to regular use are those who have lower academic achievement.

3. The evidence is sufficient to conclude that there is a causal relationship between peer group social influences and the initiation and maintenance of smoking behaviors during adolescence.

4. Affective processes play an important role in youth smoking behavior, with a strong association between youth smoking and negative affect.

5. The evidence is suggestive that tobacco use is a heritable trait, more so for regular use than for onset. The expression of genetic risk for smoking among young people may be moderated by small-group and larger social-environmental factors.

Chapter 5: The Tobacco Industry's Influences on the Use of Tobacco Among Youth

The tobacco companies spent nearly $10 billion in 2008 on advertising and promotional efforts (Federal Trade Commission [FTC] 2011a,b). While there have been restrictions on marketing to young people as a result of the Master Settlement Agreement, there have not been corresponding reductions in marketing expenses—these have increased since 1998 (FTC 2011a,b). Most tobacco industry marketing efforts involve promotional activities that reduce the price of cigarettes, strategies that should be effective with price-sensitive adolescents (FTC 2011a,b). Since the 1994 Surgeon General's report, considerable evidence has accumulated that supports a causal association between marketing efforts of tobacco companies and the initiation and progression of tobacco use among young people. This evidence includes data from cross-sectional studies on exposure to advertising and use of tobacco; longitudinal studies with non-susceptible, never-users of tobacco and subsequent initiation; examination of industry marketing efforts and use of specific brands; and evidence from tobacco industry documents on their marketing practices (Armstrong et al. 1990; Aitken et al. 1991; Evans et al. 1995; Schooler et al. 1996; Gilpin et al. 1997; Perry 1999; Chaloupka et al. 2002; *United States v. Philip Morris*, 449 F. Supp. 2d 1 [2006]; Gilpin et al. 2007; Slater et al. 2007; Pierce et al. 2010). This body of evidence consistently and coherently points to the intentional marketing of tobacco products to youth as being a cause of young people's tobacco use. The tobacco companies have launched anti-smoking efforts themselves, but while these efforts have had a positive impact on public perceptions of the tobacco industry among youth and young adults, they have not demonstrated success in impacting young people's tobacco use (Interactive Inc. 2000, 2001; Mandel et al. 2006). Importantly, new avenues for restrictions

on tobacco companies are now available and can be considered, such as changes in packaging, labeling, product design, and restricting smoking in movies.

Conclusions

1. In 2008, tobacco companies spent $9.94 billion on the marketing of cigarettes and $547 million on the marketing of smokeless tobacco. Spending on cigarette marketing is 48% higher than in 1998, the year of the Master Settlement Agreement. Expenditures for marketing smokeless tobacco are 277% higher than in 1998.

2. Tobacco company expenditures have become increasingly concentrated on marketing efforts that reduce the prices of targeted tobacco products. Such expenditures accounted for approximately 84% of cigarette marketing and more than 77% of the marketing of smokeless tobacco products in 2008.

3. The evidence is sufficient to conclude that there is a causal relationship between advertising and promotional efforts of the tobacco companies and the initiation and progression of tobacco use among young people.

4. The evidence is suggestive but not sufficient to conclude that tobacco companies have changed the packaging and design of their products in ways that have increased these products' appeal to adolescents and young adults.

5. The tobacco companies' activities and programs for the prevention of youth smoking have not demonstrated an impact on the initiation or prevalence of smoking among young people.

6. The evidence is sufficient to conclude that there is a causal relationship between depictions of smoking in the movies and the initiation of smoking among young people.

Chapter 6: Efforts to Prevent and Reduce Tobacco Use Among Young People

There is a large, robust, and consistent evidence base that documents known effective strategies in reducing the initiation, prevalence, and intensity of smoking among youth and young adults. Since the release in 1994 of the first Surgeon General's report on preventing tobacco use among young people, the emphasis on environmental and policy approaches to tobacco control has increased, including increasing the unit price of tobacco products and implementing smoking bans through policies, regulations, and laws, as well as other coordinated efforts that establish smokefree social norms (USDHHS 2000; Task Force on Community Preventive Services [TFCPS] 2005; NIH [National Institutes of Health] State-of-the-Science Panel 2006; Bonnie et al. 2007; Centers for Disease Control and Prevention [CDC] 2007; National Cancer Institute [NCI] 2008). Evidence indicates that mass media campaigns can be one of the most effective strategies in changing social norms and preventing youth smoking. Influential and successful campaigns contain a number of essential elements including optimized themes, appropriate emotional tone, appealing format, clear messages, intensity, and adequate repetition (Pechmann 2001; Siegel 2002; Farrelly et al. 2003; Wakefield et al. 2003a,b; Schar et al. 2006; Richardson et al. 2007; Angus et al. 2008; NCI 2008). There also is strong evidence that media ads designed for adults also decrease the prevalence of smoking among youth.

In addition to mass media campaigns, a number of high-impact legislative and regulatory strategies have been proven to reduce tobacco use (USDHHS 2000; TFCPS 2005; NIH 2006; CDC 2007a,b). Federal, state, and local taxes that raise prices on tobacco products improve public health by reducing initiation, prevalence, and intensity of smoking among young people. The evidence shows that increasing tobacco prices is effective at lowering smoking prevalence as well as consumption levels of tobacco products, especially by youth and young adults, and other price-sensitive populations (Chaloupka and Warner 2000; USDHHS 2000b; Zaza et al. 2005). Evidence reviewed indicates that the strength of clean indoor air laws was inversely related to the prevalence of smoking among youth and increased the probability of smoking cessation among young adults (Tauras 2004; IARC 2009). FDA has continued a progression of legislative and regulatory initiatives that have reduced youth access to tobacco products and has implemented bans on a variety of other promotional activities traditionally used by the tobacco industry that are especially appealing to youth and young adults. Evidence cited in this chapter from a broad range of studies has concluded that bans on cigarette advertising, especially if the bans are comprehensive rather than partial, reduce youth smoking (Saffer and Chaloupka 2000; Lancaster and Lancaster 2003; Iwasaki et al. 2006; NCI 2008).

Numerous studies over many years have consistently concluded that comprehensive state tobacco con-

trol programs that include a range of coordinated and complementary strategies have been effective at not only reducing tobacco use by youth and young adults, but also have resulted in overall reductions in smoking prevalence and concomitant decreases in state spending on tobacco-related health care (USDHHS 2000; Sly et al. 2001; Rigotti et al. 2002; Soldz et al. 2002; Niederdeppe et al. 2004; Pierce et al. 2005; Bonnie et al. 2007; Lightwood et al. 2008; NCI 2008; Lightwood and Glantz 2011). Evidence on school-based programs points to short-term results for programs based on the social influences model using interactive delivery methods and teaching refusal skills, with some school-based prevention programs also demonstrating longer-term outcomes. As is the case with other strategies to prevent and reduce youth tobacco use, school-based programs produce larger and more sustained effects when they are implemented in combination with other initiatives such as mass media campaigns, family programs, and state and community programs. Further, the evidence indicates that sustained programs combining mass media campaigns; price increases on tobacco products, including those that result from tax increases; regulatory initiatives such as those that ban advertising to youth, restrictions on youth access to tobacco, and establishment of smoke-free public and workplace environments; and statewide, community-wide, and school-based programs and policies are effective in reducing the initiation, prevalence, and intensity of smoking among youth and young adults.

Conclusions

1. The evidence is sufficient to conclude that mass media campaigns, comprehensive community programs, and comprehensive statewide tobacco control programs can prevent the initiation of tobacco use and reduce its prevalence among youth.

2. The evidence is sufficient to conclude that increases in cigarette prices reduce the initiation, prevalence, and intensity of smoking among youth and young adults.

3. The evidence is sufficient to conclude that school-based programs with evidence of effectiveness, containing specific components, can produce at least short-term effects and reduce the prevalence of tobacco use among school-aged youth.

Chapter 7: A Vision for Ending the Tobacco Epidemic

Public health programs and policies have been in effect since the 19th century to dissuade young people from using tobacco. The first Surgeon General's report in 1964 provided irrefutable evidence of the harmful consequences of smoking and yet, 15 years later, as noted in the 1979 Surgeon General's report, rates of smoking among young people had not changed. By 1994, when the first Surgeon General's report focused on youth was released, smoking rates among young people were increasing, despite 30 years of evidence that cigarette smoking had become the leading cause of death in the United States. Since that landmark 1994 report, a large body of research, litigation by individual states and the federal government, the Master Settlement Agreement, and authority granted to the FDA have substantially changed the tobacco control policy environment, and tobacco advertising and promotional activities have been somewhat curtailed. The rates of tobacco use among youth and young adults began to decrease from the late 1990s to the mid-2000s. Thus, progress in reducing tobacco use has been achieved, but there still remain significant challenges ahead. Nearly one-fourth of our high school seniors are current smokers, and the decreasing rates of tobacco use have leveled off, and in some subgroups have increased since 2007. The efforts of the early 21st century need to be reinvigorated, and additional strategies considered, to end the tobacco epidemic. Providing and sustaining sufficient funding for comprehensive community programs, statewide tobacco control programs, school-based policies and programs, and mass media campaigns must be a priority. Taxing tobacco products is especially effective in reducing their use among young people. Greater consideration of further restrictions on advertising and promotional activities as well as efforts to decrease depictions of smoking in the movies is warranted, given the gravity of the epidemic and the need to protect young people now and in the future.

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Contents

Introduction

Imagery emanating from motion pictures continues to provide misleadingly positive impressions of tobacco use. These images have now been identified as a cause of smoking initiation among adolescents. In 2008, the National Cancer Institute of the United States of America concluded that:

> *"the total weight of evidence from cross-sectional, longitudinal, and experimental studies, combined with the high theoretical plausibility from the perspective of social influences, indicates a causal relationship between exposure to movie smoking depictions and youth smoking initiation"(1) .*

Parties to the WHO Framework Convention on Tobacco Control (WHO FCTC) are required to implement a comprehensive ban on tobacco advertising, promotion and sponsorship according to Article 13 of the treaty (2). The guidelines for implementation of Article 13 recognize that the depiction of tobacco in films is a form of tobacco promotion that can strongly influence tobacco use, particularly among young people, and recommends a set of specific measures, which are addressed more fully within this report (3). In some countries, many of the youth-rated films that contain tobacco imagery are the recipients of significant government production subsidies. These subsidies indirectly promote tobacco use through media, and therefore are counter to WHO FCTC Article 13 and its guidelines. The issue of subsidies will also be discussed in greater depth in this report.

In the past, movies have been an important vehicle for cigarette and other tobacco product (4)[1] placement, a form of advertising of tobacco products, as well as social learning (5)[2] about smoking. The marketing of tobacco in the movies, particularly movies originating from countries with the most active movie industries, remains an important vehicle for promoting smoking, including in films rated as suitable for children and adolescents.

Voluntary agreements with the tobacco industry to limit smoking in movies have not and cannot work because the fiduciary interests of the tobacco industry are opposite to those of the public health community. In the United States, the Master Settlement Agreement (MSA) between states' Attorneys General and the major domestic tobacco manufacturers included a provision in which the manufacturers agreed to a prohibition on paid tobacco product placement in movies (6). However, evidence shows that smoking incidents increased in movies released subsequent to the MSA's 1998 implementation, peaking in 2005 (7).

Logic and science now support enforceable policies to reduce substantially smoking imagery in all film media. Measures to limit movie smoking, including those outlined in the Article 13 guidelines, and to end public subsidies for the production of movies with smoking, can ensure that motion pictures will no longer serve as a source of tobacco promotion aimed at young people. In addition, strong and enforceable policy measures can be supported by programmes to educate the public and policy-makers, as well as the entertainment industry, on the value of reducing young people's exposure to tobacco imagery.

1 Historically, cigarettes have been by far the most common tobacco product depicted in films, so this report concentrates on smoking in films. In recent years, the major cigarette companies have acquired smokeless tobacco firms and often promote these products using the same brand names as their major cigarette brands. In addition, new « e-cigarettes » have been promoted through motion picture tie-ins. Policy-makers need to integrate these changes into the tobacco marketplace when developing and implementing policies on tobacco product promotion in films and other media

2 The social learning theory of Bandura emphasizes the importance of observing and modelling the behaviours, attitudes and emotional reactions of others.

This document summarizes current knowledge about smoking in movies, as well as current and proposed approaches to reduce the impact of this imagery. The report aims to help countries understand the basis for taking action to limit the depiction of smoking in movies. This report can help the Parties to the WHO FCTC implement specific recommendations related to smoking in movies that are included in the Article 13 guidelines. In addition, it is expected that the report will also be useful to those countries that are not yet party to the treaty by helping them implement this important component of a comprehensive ban on tobacco advertising, promotion and sponsorship.

1. Tobacco on screen: why this is a problem?

In the past, the tobacco industry has spent millions of dollars to maintain the portrayal of smoking in movies (8). The role of movies as vehicles for promoting smoking has become even more important as other forms of tobacco promotion are constrained. As shown in Figure 1, this investment[3] is part of a wider and more complex marketing strategy to support pro-tobacco social norms, including product placement in mass media, sponsorship and other modalities. In this figure, cinema is shown to be a core element in mass media approaches to normalizing smoking.

According to the British Medical Association (BMA) (9), the United States National Cancer Institute (1), the United States Centers for Disease Control and Prevention (CDC) (7) and other sources, there are several reasons why smoking in movies should be addressed as a public health problem: movies reach every corner of the globe, effectively promote smoking and have done so without much public health scrutiny until now.

Figure 1: The nested relationships among advertising, marketing communications, consumer marketing and stakeholder marketing in tobacco promotion

Source: National Cancer Institute (1).

3 For the monetary value of tobacco companies' documented spending on Hollywood product placement agencies 1979–94, see *http://www.smokefreemovies.ucsf.edu/problem/bigtobacco.html*.

1.1. MOVIES REACH EVERY CORNER OF THE WORLD

At least 7300 feature-length movies were produced and released in 2009 (many directly to video) in 50 nations worldwide, including: 1341 (18%) in the European Union, 1288 (18%) in India, 677 (9%) in the United States of America, 456 (6%) in the People's Republic of China and 448 (6%) in Japan (10). The small fraction of all movies produced in the United States accounts for more than half of global investment in movie production and distribution (11) and has consistently earned 60-70% of box office receipts outside the United States (12)[4]. A survey of 50 countries found only five in which the movies produced in those countries accounted for more than half of domestic theatre box office in 2008-2009: the United States (97%), India (90%), China (61%), Japan (58%), and Turkey (52%) (13).

The tobacco industry knows that motion pictures are one of humanity's most common entertainment experiences. The world spends approximately US$ 120 billion a year to view films through legitimate distribution channels: US$ 30 billion (25%) for single viewings in theatres and US$ 90 billion (75%) for films on recorded video, over broadcast, satellite or cable, and through digital streaming or download. With 42 000 screens, 28% of the 150 000 global total, Canada and the United States accounted for one third of movie box office sales in 2010. Africa, Europe and the Middle East contributed another 33%, Asia and the Pacific region 27%, and Latin America 7% (14-16)[5]. India leads in actual admissions (2.9 billion in 2009) followed by the United States (1.3 billion) and China (264 million) (17). As movies have become more widely available on video and digital media, per capita admissions to movie theatres have stabilized or dropped since 2005 in some major economies, but increased in others as theatres have upgraded to digital and 3-D presentations (18). Rapid spread of multiple media platforms for viewing movies outside of theatres, across cultures and economies, means that exposure to film content is vastly underestimated by movie theatre attendance data alone (see Annex A).

1.2 MOVIES ARE EFFECTIVE IN PROMOTING SMOKING

Exposure to smoking in movies is high

An analysis of more than 1300 feature films accounting for 96% of all ticket sales in the United States between 2002 and 2010 found that tobacco imagery permeated both youth-rated (G/PG/PG-13) and adult-rated (R) movies, with 62% of top-grossing (19)[6] films featuring tobacco imagery. More specifically, 81% of all R-rated movies included smoking, while smoking appeared in 66% of movies rated PG-13 and 27% of movies rated G or PG. Altogether, top-grossing movies of all ratings distributed in the United States between 2002 and 2010 contained approximately 7500 tobacco incidents[7]. Of these incidents, 56% were in movies rated R; 39% in movies rated PG-13; and 5% in movies rated G or PG (see Box 1 for an explanation of the United States' rating system). The number of tobacco incidents peaked in 2005, at 1170, declining to 535 incidents in 2010. The greatest decline was shown in G and PG films (94%) and the least in R-rated films (39%). Over the same period, the share of PG-13 films with tobacco imagery ebbed from 60% to 43%, compared to 80% in 2002 (7).

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4 For example, of the 165 films attracting two million or more moviegoers in the European Union in 2010, 118 (72%) were United States productions. Of the top 50 box office films in the European Union that year, 47 (94%) were United States films; and of the top 100, 80%.

5 The MPAA reports that, on average, films earn three-quarters of their total sales revenue in all media "in markets subsequent to initial theatrical release".

6 Definition: films that ranked among the top 10 in box office earnings in the "domestic" (Canada and the United States) film market for at least one week of their initial ("first-run") theatrical release. From 2002 to 2008, this sample included 83% of all films released to theatres and 96% of all movie tickets sold in the domestic market.

7 There are two different ways of counting "incidents", depending on how one handles cuts back and forth in a single scene. One approach, used by Dartmouth University (and this report), counts use of tobacco by an individual in a single scene as one impression even if the camera cuts back and forth between a smoker and non-smoker. A second approach, used by the Thumbs Up! Thumbs Down! Project (*http://www.scenesmoking.org*), counts each cut as a separate incident. These two approaches yield closely correlated results: the Thumbs Up! Thumbs Down! approach leads to counts that are, on average, 3.4 times the Dartmouth approach. Both methods are equally valid for tracking changes over time.

Hollywood films containing tobacco imagery continue to earn billions of dollars globally, including in countries that have taken strong measures against tobacco advertising and promotion (see Box 2 for more on worldwide tobacco image exposure in films produced in the United States). For example, in China in 2009, the United States-produced film "Avatar" earned US$ 182 million at the box office while delivering 187 million tobacco impressions to theatre audiences there (20)[8].

Box 1: The film rating regime in the United States

Since 1968, film ratings in the United States have been assigned by the Motion Picture Association of America (MPAA), the trade group of major film studios, and by the National Association of Theatre Owners, which jointly operate the Classification and Rating Administration. Submitting a film for classification is voluntary, as is rating observance by theatres and video retailers, but is practically universal among commercial, non-pornographic film and video distributors.

Motion Picture Association of America rating categories:

- G: General audiences – all ages admitted
- PG: Parental guidance suggested – some material may not be suitable for children
- PG-13: Parents strongly cautioned – some material may not be suitable for children under 13
- R: Restricted – under 17 requires accompanying parent or adult guardian
- NC-17: No one under 17 admitted (21).

From 2002 to 2010, 22% of films widely released to theatres in the United Sates were rated G or PG, 46% were rated PG-13; 33% were rated R; almost none were rated NC-17 (19).

Various methods have been used to measure the exposure of adolescents to tobacco imagery in movies (see Annex B). Although there is a lack of available data on in-home media, it is possible to estimate tobacco imagery exposure that adolescents receive from motion pictures using publicly available cinema audience composition and box office sales data[9]. Adolescents aged 12-17 are consistently reported to be the most frequent moviegoers. In 2010, American and Canadian adolescents saw an average 8.0 movies in theatres, compared to 3.4 for children aged 2-11, 7.2 for young adults aged 18-24, 5.2 for adults aged 25-39, and 2.9 for adults aged 40 and over (15)[10]. American audience survey data from 2006 indicates that 59% of adolescents reported going to see three or more movies in the previous 90 days, compared to 39% of young adults (22). On average, adolescents were twice as likely to have seen four or more films in the past three months than young adults (23). While they comprise 8% of the population of the United States, adolescents make up 18% of all "frequent" moviegoers who see films at least once a month and 23% of all those who see at least one film a week (14). According to United States data, frequency of movie going increases through adolescence: more than 40% of adolescents who are frequent moviegoers are 16-17 years of age, while 26% are 12-13 years of age (24).

Based on American 2006 audience age composition (by rating), box office (gross revenue from ticket sales, by film), and tobacco imagery incidence (by film) for the period 2002-2009, viewers aged 12-17 were subject to 18% of the 188 billion estimated tobacco impressions delivered by films in theatres

8 Calculated on the number of tobacco incidents in Avatar (http://www.scenesmoking.org) multiplied by the film's paid admissions in China: reported box office earnings (http://www.boxofficemojo.com) divided by reported ticket price.

9 Data on age composition are gathered commercially, e.g. for targeting in-theatre advertising campaigns. Motion Picture Association branches around the world may also have this data; the United States branch routinely disaggregates age in its attendance statistics but not publicly by film rating.

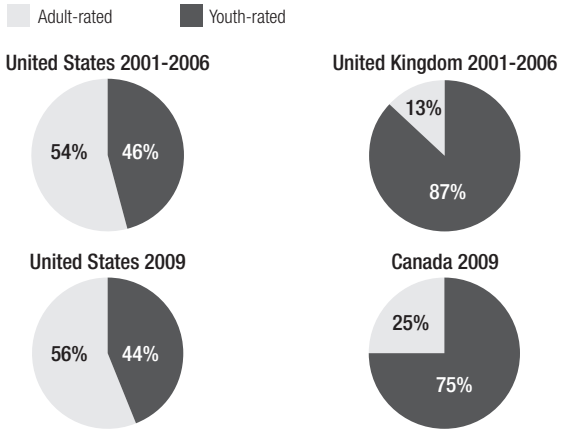
10 Per capita tickets sold, by age group, were calculated with United States Census data population estimates.

in Canada and the United States, or 4.1 billion tobacco impressions annually on average[11,12]. Adolescents comprised nearly 17% of the audience for G/PG movies, more than 20% of the audience for PG-13 movies, and more than 10% of the audience for R-rated movies in theatres. In this period, 71% of tobacco impressions delivered to adolescents came from PG-13 movies, about 1% from G/PG movies, and 28% from R-rated movies, which have substantially higher tobacco content. Associated with the decline in tobacco incidents after 2005 (7), in-theatre tobacco impressions delivered to adolescents fell 50% to 2.6 billion. However, as media platforms have multiplied and digital access to films has accelerated, trends in adolescents' total exposure are uncertain. An observational study of a large sample of American adolescents also found that movies deliver billions of tobacco impressions to this age group and that even younger adolescents aged 10-14 receive nearly 40% of their tobacco exposure from higher-incidence R-rated films (25). These results include movies seen by any means and suggest that while adolescents see significantly fewer R-rated films than unrestricted films, they encounter somewhat more R-rated films outside of theatres. Despite this exposure to R-rated films, however, youth receive the majority of their exposure to on-screen smoking through youth-rated films.

Film classification policies shape adolescent exposure

Adolescent exposure to on-screen smoking is substantially higher in countries where film classification regimes assign youth ratings to many movies rated R in the United States. A survey of top-grossing films released in both Canada and the United States in 2009 found that province-level rating agencies in Canada classified 60% of films rated R in the United States as suitable for young people under 18 years of age without restriction. Consequently, movies youth-rated in Canada (PG/14A) delivered 60% more in-theatre tobacco impressions (population-adjusted) than youth-rated films in the United States in the same year (26). In the United Kingdom between 2001 and 2006, 79% of films rated R in the United States were permitted to be marketed to adolescents without restriction, so that films youth-rated in the United Kingdom delivered 93% of in-theatre tobacco impressions and boosted adolescent exposure by an estimated 28% compared to the United States adolescent exposure (27). A large majority of tobacco incidents were also to be found in the movies youth-rated in Canada and the United Kingdom, while about half were in youth-rated films in the United States (Figure 2).

Figure 2: Comparison of shares of total tobacco incidents in films youth- and adult-rated in the United States and the United Kingdom, 2001-2006, and in the United States and Canada, 2009



11 Calculated from Nielsen Media Research, 24 June 2005 – 22 June 2006.

12 "Tobacco impressions" are calculated by multiplying a movie's tobacco incidents by its paid theatrical admissions. Admissions are estimated by dividing the movie's total gross domestic box office sales (reported by authoritative industry sources) by the average movie ticket price for the year in which the film was released. The National Association of Theatre Owners (United States) establishes the average ticket price (http://www.nato-online.com).

Exposure to smoking in movies increases adolescent smoking initiation

In 2008, the US National Cancer Institute concluded that smoking in movies causes adolescent smoking (1). That determination was based on several types of evidence:

- population-based scientific surveys that assessed exposure to smoking in movies and observed that such exposure was linked to having tried smoking (28–31);
- two other surveys showing that exposure to smoking in movies predicted smoking onset among adolescents (32, 33); and
- experiments that found smoking in movies affected short-term attitudes, and that anti-smoking advertisements shown prior to movies with smoking blunted these effects (34).

Since the National Cancer Institute reached its conclusion of causality, large-scale epidemiological studies have confirmed similar effects on adolescents all over the world, including additional samples of adolescents in the United States (35-40), Germany (41, 42), Mexico (43, 44), European countries (45), and India (46). In Germany, a 1999-2004 longitudinal study showed that 85% of movie smoking exposure came from internationally distributed (mainly Hollywood) movies; researchers concluded that "smoking in internationally distributed movies [the majority from the United States] predicts trying smoking among German adolescents" (42). Based upon population studies in the United States reported for 2003-2009, it is estimated that exposure to on-screen smoking accounts for 44% (95% confidence interval (CI) 0.34-0.58) of new adolescent smokers in the United States (47) (Table 1).

Almost all of the studies show there is a dose-response; the more on-screen smoking that adolescents see, the more likely they are to smoke. Several studies link movie smoking with more advanced stages of smoking, such as smoking in the past 30 days (44, 48) or having smoked 100 or more cigarettes in their lives (37, 39). Others have shown an association between movie smoking and more favourable attitudes towards smoking (49-51). One study has found an association between smoking in movies and smoking among young adults (52), indicating that movie effects may not be confined to adolescents.

Consistent with the findings of these population-level epidemiological studies, a number of experimental studies have confirmed that seeing a smoking film shifts attitude in favour of smoking (53), and that an anti-smoking advertisement shown prior to a film with smoking blunts the effect of smoking imagery (54-56). While only one study failed to find an influence of smoking in movies on smokers' reported desire to smoke (57), another experiment found young adult smokers who viewed a montage that included smoking scenes were more likely actually to smoke during a break and immediately after the session than were those who viewed a smoke-free montage (58). One study assessed brain response to movie segments with smoking in adult smokers (59). Their brains showed activity in areas responsible for craving as well as in prefrontal zones involved in motor planning for the right hand, suggesting they were preparing to light up in response to seeing actors smoke.

Table 1. Nations and sub-national units where movies have been linked with youth smoking[13]

1. England
2. Germany
3. China, Hong Kong SAR
4. Iceland
5. India
6. Italy
7. Mexico
8. New Zealand
9. Poland
10. Scotland
11. Thailand
12. The Netherlands

Movies are effective because they influence behaviour and form social norms

The social environment influences behaviour among children and adolescents. Young people watch others, especially those they admire, and emulate their behaviour (5). Movie characters providing the illusion of a face-to-face relationship with viewers are "para-social" (60) agents of ambition, aspiration and transformation: they can encapsulate dreams, craft hopes, and provide moments of excitement. Movies offer not only world-famous stars but also a fantasized view of life. Insofar as adolescents hope to take part in the glamorous and exciting lifestyles depicted in movies, they may adopt the behaviours they see in them (29). Thus, for the tobacco industry, films provide an opportunity to convert a deadly product into a status symbol or token of independence. In contrast to traditional advertising, movies from Hollywood, Bollywood and other film production centres provide powerful information about the "benefits" of smoking. It is not only the smoking behaviour of "positive" characters that young people emulate. Research shows that the villain who smokes can be even more influential on adolescents than the hero (61).

Experimental and observational studies show that cigarette smoking in films influences young people's beliefs about social norms for smoking, as well as their beliefs about the function and consequences of smoking and their personal intention to smoke (34, 43, 49). The presentation of smoking in films does not reflect reality. In reality, smoking tends to be highest among lower socioeconomic groups, whereas in films, most characters, including smokers, are of high-socioeconomic status. Additionally, the real health consequences of smoking are rarely shown (62, 63). Young people, especially, look to celebrities for personal cues, group reference and validation. As they assemble their identities, films offer adolescents a catalogue of looks, attitudes and behaviours.

1.3 MOVIES HAVE ESCAPED TOBACCO CONTROL SCRUTINY UNTIL RECENTLY

Movie smoking increases when traditional advertising is restricted and has rarely been considered by policy-makers

The WHO FCTC guidelines on banning tobacco advertising, promotion and sponsorship clearly state that the depiction of tobacco in entertainment media products, such as films, theatre and games is a form of tobacco advertising and promotion. However, the depiction of tobacco has been rarely regulated until now.

13 Studies available at *http://smokefreemovies.ucsf.edu/godeeper/the_science.*

Between 1978 and 1982, after the United States had barred broadcast advertising of tobacco products, four major United States tobacco companies established contractual relationships for product placements in motion pictures (64). Collaboration with the film industry has been documented to 1994. The 1998 Master Settlement Agreement reached between state-level Attorneys General in the United States and domestic tobacco companies barred tobacco product placement (65).

The effective substitution of on-screen tobacco imagery for traditional tobacco advertising is suggested by a survey of popular films in India. It found that tobacco brand display exploded in Bollywood (Hindi-language) films after tobacco advertising was banned in all other Indian media in 2004. The brand display was more or less evenly split between premium cigarette brands belonging to British American Tobacco (BAT) and its long-time Indian partner, the Indian Tobacco Company (ITC), and competing brands belonging to Philip Morris International (PMI), whose entry into India's market under liberalized trade rules coincided with the nation's tobacco advertising ban (66).

Even in countries with bans on tobacco advertising and promotion, movie imagery continues to provide misleadingly positive messages about smoking. In the United Kingdom, where almost all forms of tobacco advertising are prohibited, films from the United States that were youth rated in the United Kingdom between 2001 and 2006 contained 83% of all tobacco incidents and delivered 87% of tobacco impressions to theatre audiences (27). In Australia, a 2008 study found that 70% of top box office films contained smoking depictions, including 75% of the most popular PG-rated films (67). In Canada, a 2009 survey found that 75% of tobacco incidents appeared in youth-rated movies and a majority of these in G/PG films (26). Indeed, in countries that have successfully limited tobacco image advertising, movies deliver the vast majority of tobacco media imagery to youth.

Countries subsidize production of films with smoking imagery

Besides classifying films as an explicit or implicit condition of their distribution and promotion, countries and numerous jurisdictions (regions, states, provinces, cities) offer grants or tax breaks in favour of national and international film productions. In the case of national filmmakers, the object is often to support a national or language-specific film culture. Public subsidies to larger budget international film productions are designed to compete for their spending against other locations and, indirectly, to subsidize a local film industry. From 2008 to 2010, 14 nations or their sub-units awarded an estimated US$ 2.4 billion to producers of 93% of the 428 films, mainly developed by companies based in the United States, which achieved top box office status in Canada and the United States. Half of these films featured tobacco imagery. Over three years, subsidized with US$ 1.1 billion in tax credits, these films delivered an estimated total of 130 billion tobacco impressions to theatre audiences worldwide.

Canada (provinces and federal government), Germany, New Zealand, the United Kingdom and the United States (state governments) accounted for 91% of the value of subsidies to top-grossing films with smoking in the years 2008-2010, with the states in the United States contributing two thirds (US$ 288 million) of all subsidies to top-grossing films with smoking[14]. Together, the American states that awarded these subsidies to top-grossing films spent slightly more on films with smoking than they allocated, in total, for their tobacco control efforts (US$ 280 million) in 2011 (68) (Annex C).

14 The methodology used to calculate this was the subsidy rate offered by the primary production location listed for each top-grossing film multiplied by the amount of the film's estimated spending that was eligible for subsidy. The eligible spending (total published production budget less above-the-line costs, including producer, director, writer, composer and star actors' fees) was estimated by multiplying the total budget by a percentage (50-95%) graduated by budget size: small budget films spend a greater percentage on daily shooting costs commonly eligible for subsidy than large budget films. The results for California, the United States, were adjusted to eliminate many films released between 2008 and 2010 that began production before California started offering subsidies in 2009 as well as animated films ineligible for subsidies under its current programme.

Filmmakers claim "dramatic necessity" and free speech protection

Film industry representatives sometimes assert the need for smoking imagery in a movie to tell a story. The WHO FCTC certainly asserts that the implementation of a comprehensive ban on tobacco advertising, promotion and sponsorship should not prevent legitimate expression. However, the presentation of smoking on screen is rarely realistic, generally showing images more consistent with cigarette advertising than with authentic representations of the dire health consequences of tobacco use. Some people inside and outside the film industry have raised concerns about the impact on free expression of the measures limiting smoking in movies. Most of these concerns are based on distorted accounts of the policies actually proposed to reduce tobacco imagery in films.

Box 2: Tobacco images in films from the United States have worldwide impact

Tobacco imagery emanating from films produced in the United States is extensive outside Canada and the United States. Of the top 20 box office movies worldwide each year between 2005 and 2009, 88% were developed and released by film companies in the United States. In total, those American studio films earned 37% of their theatrical sales revenue (US$ 15.2 billion) in the United States and the other 63% (US$ 41.2 billion) in the rest of the world (69). Taking about one third of the United States' box office receipts each year, the top 20 movies alone generated more than 40% of the rest of the world's ticket sales. In all, films made in the United States accounted for 23 of the top 25 box office films in the European Union (2009) and for two-thirds of total ticket sales; three-quarters of box office receipts in the Russian Federation and the Commonwealth of Independent States (CIS); 92% of the market share in Canada and the United States (American films occupied 16 of the top 20 slots in French-speaking Québec); nine of the top 10 box office films in Latin American countries; 95% of the market share in Australia; and 80-90% in China, Hong Kong SAR, Malaysia and Singapore. Altogether, it can be estimated that movies made in the United States exposed international audiences to about 220 billion tobacco impressions in theatres alone between 2005 and 2010, an annual average of approximately 37 billion tobacco impressions, about twice the amount that Hollywood delivered on average to theatre audiences in the United States (7).

The largest exceptions are China, which currently limits imported films to no more than one third of available theatre screen time; India, the world's most prolific film producer, where all imported films have less than 10% of the market share and even Hindi language ("Bollywood") movies comprise just 20% of national output in more than 20 languages; and Japan, where movies made in the United States occupied just five of the top 20 box office slots in 2009 (69). Public health experts and policy-makers in China and India are addressing smoking in movies produced in national film industries as well as considering the effect of exposure from cross-border blockbusters viewed on pre-recorded disks, via satellite or on the Internet.

2. Protecting young people from smoking in movies: policy options

On-screen smoking benefits the tobacco industry and increases youth smoking initiation. Therefore, as outlined in the WHO FCTC, measures to limit movie smoking have to form part of any comprehensive tobacco control strategy.

Even without the compelling evidence that smoking in films has been a mainstay of tobacco marketing efforts (8, 64), this medium's tremendous reach compels development of measures to substantially and permanently reduce adolescents' exposure to tobacco in film. With bans on tobacco sponsorship of sports and music events in an increasing number of countries, film remains one of the last media in which adolescents can be exposed to smoking imagery without restrictions. Tobacco market leaders (70) benefit the most from any tobacco imagery on film, branded or not. Hamish Maxwell, the then-president of Philip Morris International and later CEO of Philip Morris Companies (forerunner of Altria), recognized this fact in 1983. The important thing, he said, was to "continue to exploit new opportunities to get cigarettes on screen" in order to keep smoking socially acceptable (71).

Policy-makers must also take into account the rapid evolution of media and the emergence of new platforms in order to provide "future proof" solutions. In 2000, 7% of the global population used the Internet; in 2010, 27% used it, and one in four had video-capable broadband service. In 2000, 12% of the global population were mobile phone subscribers; by 2010, 69% were subscribers, and Internet access via mobile phone was fast expanding (72). The number of movie screens worldwide remained constant between 2005 and 2010, while a quarter was upgraded for lower cost digital distribution of films (14). At the same time, new multiplex theatres attracted larger audiences in such countries as China and India. Meanwhile, worldwide, falling prices and wider choices (including movie channels and the ability to watch films on mobile devices) were accelerating the spread of newer technologies such as satellite television, as well as the means to view movies via broadband Internet.

2.1 Smoke-free movies and the WHO Framework Convention on Tobacco Control

The WHO Framework Convention on Tobacco Control came into effect on 27 February 2005. By June 2011, there were over 170 Parties to the Treaty (2). Article 13 of the WHO FCTC obliges Parties to enact comprehensive bans on tobacco advertising, promotion and sponsorship within five years of ratification. Article 13 also calls specifically for a ban on cross-border advertising, enabling countries that have enacted national restrictions on advertising and promotion to prevent the entry of banned advertising and promotion into their territories. In November 2008, the Conference of the Parties to the WHO FCTC at its third session unanimously adopted the guidelines for implementation of Article 13 (3).

According to the definitions in Article 1 of the WHO FCTC, a comprehensive ban on all tobacco advertising, promotion and sponsorship applies to all forms of commercial communication, recommendation or action and all forms of contribution to any event, activity or individual with the aim, effect or likely effect of promoting a tobacco product or tobacco use either directly or indirectly. This definition would imply that various forms of smoking imagery in movies would be included as part of the comprehensive ban called for by the WHO FCTC. In addition, the Article 13 guidelines specifically recommend that the comprehensive ban should cover traditional media (print, television and radio) and all media platforms, including the Internet, mobile phones and other new technologies as well as films.

Furthermore paragraph (4)(e) of Article 13 states that a Party that is not in a position to undertake a comprehensive ban due to its constitution or constitutional principles should "restrict tobacco advertising, promotion and sponsorship on radio, television, print media and, as appropriate, other media ..." (2). This would imply that the film media are included in this provision.

Finally, smoking in movies can also be considered under the provisions of paragraph (4)(a) of Article 13 that prohibits advertising, sponsorship and promotion "by any means that are false, misleading or deceptive or likely to create an erroneous impression about its characteristics, health effects, hazards or emissions ..." (2). For example, of more than 950 films with tobacco imagery in them released by the United States film industry since 1999, very few included characters suffering from a tobacco-related disease. The exceptions are rare, such as "Constantine" (Time Warner, 2005: R-rated) and "The Constant Gardener" (a joint British/German production, 2005, R-rated), both of which feature smokers with lung cancer. Films occasionally feature one character warning another about smoking, but these warnings are often ignored or minimized by the smoking character.

The following section further outlines evidence-based measures and recommendations for countries with different media environments and policy contexts. First, the primary objectives and core principles for recommendations are presented.

2.2 PRIMARY OBJECTIVE AND CORE POLICY PRINCIPLES

When developing policy, both national and global perspectives should be considered. Well-designed, evidence-based public health policy will improve population health both nationally and globally. The primary objective of actions to reduce smoking imagery in the movies is: "To substantially and permanently reduce children's and adolescents' exposure to tobacco imagery in movies."

Only options that meet this objective would then be evaluated for political feasibility, legality, sustainability and cost. There are two principles that guide such evaluation.

- **Principle 1: Seek "upstream" solutions**
  Policy should motivate change in the film industry's behaviour so as to reduce harmful content at the source ("upstream") instead of burdening the adolescents in the audience and their parents with taking some sort of protective measures ("downstream"). Films with smoking imagery are causally associated with smoking initiation, and therefore industries that profit from marketing these health risks should be responsible for making them safe.

- **Principle 2: Leverage national action for global benefit**
  Policies in one country can protect young people elsewhere. If tobacco imagery in youth-rated movies is greatly reduced in films made in the United States, it will reduce children's and adolescents' exposure in the many other countries where Hollywood movies are popular. The same is true for France, India, the United Kingdom, and any other country with a film industry that has substantial exports. If countries that are markets for Hollywood exports include smoking in their ratings regimes, make films with smoking ineligible for public subsidy or develop other policies that impact the United States film industry's production and distribution, these countries create incentives for Hollywood and other filmmakers to alter tobacco imagery practices as a global public good. Certainly, large countries such as China and India can also set important global precedents. In addition, a global approach increases the leverage of countries whose film markets are not large enough to directly influence multinational corporate behaviour.

2.3 RECOMMENDED MEASURES

While Article 13 clearly identifies most depictions of smoking in movies as a means of advertising and promoting tobacco, its guidelines state that a comprehensive ban on tobacco advertising, promotion and sponsorship need not interfere with legitimate types of expression, including journalistic, artistic or academic expression. In order to ensure that legitimate forms of expression are not tainted by the influence of tobacco industry interests, while at the same time ensuring that youth are adequately protected from the harmful influence of smoking in entertainment media, Article 13 guidelines recommend that:

> *Parties should take particular measures concerning the depiction of tobacco in entertainment media products, including requiring certification that no benefits have been received for any tobacco depictions, prohibiting the use of identifiable tobacco brands or imagery, requiring anti-tobacco advertisements and implementing a ratings or classification system that takes tobacco depictions into account. (3)*

Certify no payoffs

Article 13(4)(d): "[R]equires ... the disclosure ... of expenditures by the tobacco industry on advertising, promotion and sponsorship not yet prohibited ...." (2). In order to ensure that tobacco companies are not marketing their products through product placement in movies, Article 13 guidelines also recommend that Parties should:

> *[i]mplement a mechanism requiring that when an entertainment media product depicts tobacco products, use or imagery of any type, the responsible executives at each company involved in the production, distribution or presentation of that entertainment media product certify that no money, gifts, free publicity, interest-free loans, tobacco products, public relations assistance or anything else of any value has been given in exchange for the depiction. (3)*

Films with tobacco use should include a certificate in the closing credits declaring that no persons involved with the production of the movie received anything of value (cash, free cigarettes or other gifts, free publicity, interest-free loans or any other consideration) from anyone in exchange for using or displaying tobacco products in the film. Figure 3 shows a minimalist example of a notice that may appear in the final credits of a film.

Figure 2: Final film credit notice about tobacco payoffs

Certification should require a sworn affidavit on public file from the responsible executive at every company with production and distribution credits for the film. This certification should be backed up by appropriately transparent internal procedures within the companies to assure compliance. Under penalty of perjury or fraud, it would encourage executives to keep productions free of tobacco industry influence. Certification would help discourage tobacco influence through covert, transnational, tobacco-related investments or credit facilities for film productions. Because it is a legal instrument, the actual certification, which would be longer and more technical than the

notice required to be shown on screen, must be drawn up with expert legal advice[15]. Because side deals by contractors, employees and even actors are difficult to ascertain, eliminating tobacco imagery entirely from films may be the surest way to reduce the certifying companies' legal exposure altogether.

A procedure is needed for deciding if the film includes tobacco imagery and needs to be certified. This qualification procedure should be categorical in that any film that refers to, shows or implies tobacco use, a tobacco product or a tobacco brand needs to be certified. Many countries already have a voluntary or official regime for registering films, rating them and approving them before local distribution. They may offer grants, tax credits, spending rebates, development funding or distribution support to national and international film productions, as discussed in Section 1.3. These measures should be amended to make film and television projects with tobacco imagery or reference ineligible for public subsidy. Countries may also have specific tax or trade policies related to the distribution of imported films. Such existing mechanisms should be amended to require certification that no payoffs have been accepted for films with tobacco images.

Where imported films dominate a country's film market, it should be a straightforward procedure to require certification of no payoffs as a condition for a film's exhibition licence. The country is simply requiring that the distributor ensure that the film does not violate the national policy against paid tobacco advertising. Also, anti-placement language should be inclusive so as to cover any kind of "consideration", including gifts, barter (including advertisement bartering), discounted services (such as production services), promotional arrangements, house rents and car leases, as well as cash or credit extended to an individual or company.

Stop identifying tobacco brands

The depiction of tobacco brand names in movies is clearly a form of tobacco advertising and promotion according to the definitions outlined in Article 1 the WHO FCTC. In addition, the Article 13 guidelines recommend that a comprehensive ban on tobacco advertising, promotion and sponsorship should cover advertising and promotion of tobacco brand names. It also recommends that these comprehensive bans extend to such media platforms as films.

While most advertising is fleeting, tobacco brands shown on screen are viewed repeatedly on a growing number of media platforms. Their lifetime is measured in decades. Thus, there should be no tobacco brand identification, tobacco "trade dress" or the mimicry of "trade dress"[16], or tobacco brand imagery (such as billboards) in any movie scene. Under pressure from states' Attorneys General, United States-based tobacco companies have written to Hollywood film studios to protest against the use of their tobacco trademarks, after the fact, but have not pursued any legal remedies for this use of their trademarked material. The studios, in turn, have publicly stated that they never request permission to use these trademarks. However, a simple, easily enforced rule would be more effective in eliminating hard-to-detect arrangements for global brand exposure in films. A total ban on brand identification on screen would be the most straightforward extension of national restrictions on tobacco branding in all media.

15 Example of substantive certification language drafted in 2009 by a United States entertainment attorney for the University of California, San Francisco, Center for Tobacco Control Research and Education: "No person or entity participating in or in any way associated with the development, production, financing, distribution, exhibition, marketing or any other exploitation of this motion picture in any medium [in the United States][anywhere in the world] has received anything of value (including money, merchandise, advertising, publicity or any other opportunity, consideration or incentive of whatever nature), nor entered into any agreement, understanding or other arrangement with respect to any of the foregoing, in connection with any use, depiction or appearance of or reference to any products containing tobacco in this [or any other] motion picture or the marketing or exploitation thereof."

16 Trade dress, a form of intellectual property, refers to the visual characteristics of a product identifiable by the consumer. Movies and television series produced in the United States have used prop tobacco packages that mimic the trade dress of best-selling tobacco products, with altered lettering.

Require strong anti-smoking advertisements

Article 13(4)(b) of the WHO FCTC "[R]equire[s] that health or other appropriate warnings or messages accompany all tobacco advertising and, as appropriate, promotion and sponsorship ..." (2). The recommended approach according to Article 13 guidelines is to "require the display of prescribed anti-tobacco advertisements at the beginning of any entertainment media product that depicts tobacco products, use or images" (3).

Classroom (34) and in-theatre (73-75) experiments show that an anti-tobacco advertisement before a film that includes tobacco imagery helps inoculate both younger and older adolescents against the promotional effects of such imagery in the film. A strong anti-smoking advertisement (not one produced or influenced by a tobacco company) should run before a film with any tobacco presence and in any distribution channel, regardless of its rating. It should be culturally appropriate and targeted to specific audiences (76). Such spots are important because, even if tobacco images are cleared from youth-rated films, adolescents may be exposed to adult-rated films through new digital technology. In the United States, for example, adolescents get around half of their tobacco exposure from R-rated films (25); adolescents in countries whose film classification regimes commonly make films R-rated in the United States accessible to young people receive substantially more exposure. Because all media are converging on digital technology and because it is increasingly likely that adolescents in many countries can also access this technology, effective anti-tobacco spots can be added to videos and other distribution channels, including cable and satellite, video-on-demand and Internet downloads after distribution.

The World Lung Foundation web site (*http://www.worldlungfoundation.org/*) hosts a series of anti-tobacco advertisements from various countries (77) that have been selected for their potential applicability around the world, having been shown to be effective in a number of countries. The American Legacy Foundation's "truth" campaign spots (*http://www.thetruth.com/archive/*) and television advertisements developed by the State of California, the United States (*http://www.tobaccofreeca.com/ads.html*), have also been demonstrated to be effective in discouraging youth from smoking (78-80).

There are significant considerations for governance in this kind of policy intervention. National rules are needed to determine how advertisements will be developed and selected for use, who will vet and pay for them and how many will be needed to avoid audience fatigue. In addition, rules for distribution and monitoring procedures will be needed.

Because this policy may be the least disturbing to the status quo and may provide the film industry with an opportunity to demonstrate corporate social responsibility, anti-tobacco advertisements may be the easiest policy to promote. While research shows that anti-tobacco spots do not lower audience opinion of a given movie, their presence may be inconvenient enough that they may contribute to an eventual reduction in the number of new movies with smoking imagery.

Require adult ratings for movies with tobacco imagery

Given that there is a dose-response relationship between exposure to on-screen smoking and youth tobacco initiation, a key goal should be to reduce youths' level of exposure (the dose) to on-screen smoking. Most youth exposure to on-screen smoking comes from smoking incidents in youth-rated films. Because fewer children and adolescents view adult-rated films, official ratings for age-appropriateness would be an effective method to reduce adolescent exposure to tobacco use without interfering with movie content. Any future movie with tobacco imagery should be given an adult

rating, with the possible exception of movies that unambiguously depict the dangerous consequences of tobacco use or portray smoking by an actual historical figure who smoked. Older films should not be re-rated.

The age of majority may vary from country to country, but in general, an "adult" rating means that individuals younger than that age (18 years of age in many countries) are not allowed to see the movie or that the viewer under the age of majority must be accompanied by a parent or adult guardian. In a number of other countries, an "18" or "R-18" rating would correspond directly with their age of majority. In the United States, the "R" rating (individuals under 17 years of age are not admitted without a parent or adult guardian) comes closest to the age of majority. The next age level identified by specific ratings below these "adult" ratings typically sets a minimum age of between 13 and 15 years, e.g. PG-13 in the United States (81). Without "adult" rating restrictions for movies with tobacco imagery, however, tobacco exposure would be allowed or even effectively endorsed in films targeted at adolescents aged 12-17, those at highest risk for smoking initiation (indeed, in the United States, the majority of youth exposure to on-screen smoking comes from PG-13 movies). Therefore, an appropriate adult rating (such as R-18) would be recommended for films that include tobacco imagery.

Age classification systems are generally developed in accordance with national guarantees of freedom of expression. Therefore, including tobacco imagery in the existing rating framework should raise no rights or censorship issues.

A rating scheme does not need to be 100% effective in reducing youth exposure to make a difference. Insofar as producers leave tobacco imagery out of films in order to obtain a youth rating in their domestic markets, these films will reduce overall exposure of youth to on-screen tobacco use in films released globally by major distributors.

Make media productions with smoking ineligible for public subsidy

Public subsidy of media productions known to promote youth smoking initiation is counter to WHO FCTC Article 13 and its guidelines. Public support for and policies favouring media producers, whether the rationale is cultural conservation or commercial competition, should be harmonized with the fundamental public health imperative to protect populations from tobacco promotion and with Article 13 of the WHO FCTC. By definition, subsidy programmes transfer public assets to a private interest for a public good and, therefore, the statutes and regulations governing subsidy of media productions commonly include or exclude certain types of media production and content. These programme specifications should be amended so that any media production representing or referencing tobacco use, or depicting a tobacco product, non-pharmaceutical nicotine device, or tobacco brand names, trademarks, marketing collateral or paraphernalia, is ineligible for any form of public benefit for project development, production, marketing or distribution, including grants, loans, investments, spending rebates, tax credits or other favourable tax or trade treatment.

2.4 STRATEGIES FOR OLDER MOVIES

Films may be popular for decades after their initial release and, thus, there should be some consideration of at least adding warning labels and anti-tobacco messages to DVDs and videos of older films. Most films date quickly and older films represent a small fraction of the youth market; thus it is not practical to re-rate older films.

The same factors that can prevent a country's age classification from shaping exposure (films viewed mostly on video, widespread piracy, lack of ratings enforcement) also make it impractical to attempt to ban imported films with tobacco imagery. Before they are distributed, however, imported films should include a strong anti-tobacco advertisement before the start of the film and a no-pay-off notice in the final credits, backed by an affidavit from the original production companies and the distributors. They should also receive an "adult" rating.

2.5 Measures with potentially limited effect

Blocking out tobacco images

Pixelization is a video- and image-editing technique where part of an image is blurred by displaying it at a markedly lower resolution. It is primarily a censorship method. However, even though the image of a cigarette can be blurred during a scene, it is often an imperfect solution since viewers can typically infer that the character is indeed smoking. In addition, unlike anti-tobacco spots shown before the film, pixelization does not engage the audience in critical thinking about tobacco imagery in the film. Although there are no studies yet to confirm this, logical reasoning leads to the conclusion that pixelization may actually attract attention to this imagery. The paradoxical result of blocking tobacco images (as opposed to ensuring that they simply do not appear) is that smoking may become more intriguing to adolescents as a model of rebellious behaviour.

If an aftermarket policy solution is needed, strong and proven effective anti-tobacco spots are much preferred to pixelization, blurring of films or embedding formulaic health warnings or symbols in a film.

2.6 Measures not recommended

Partial or subjective measures

In order to be effective, policies must be clear, easily interpreted and transparently applied. For example, a rule that grants an exception for an actual historical figure who actually smoked (e.g. Winston Churchill) can be effectively applied. A general "historical character" exception cannot be. Labels such as "gratuitous smoking", "pervasive smoking", "glamorized smoking", "positive images of smoking", "imagery that condones smoking", "editorially justified smoking", "historically appropriate smoking" and "justified smoking" are examples of criteria that are impossible to define. Such vague terms mean that filmmakers and ratings authorities will not know what is and is not consistent with the policies; this approach leaves much to conjecture, lacks transparency and results in inconsistent implementation.

Equally problematic would be general requirements that rating bodies merely "consider" smoking in films without also providing specific guidelines. Experience in the United States has shown that such ambiguous policies have no practical effect on youth exposure to smoking on screen (82). In May 2007, the MPAA said that it would consider adding descriptors such as "pervasive smoking" or "glamorized smoking" to some ratings, without a "mitigating context" (83, 84)[17]. Such content descriptors fail to convey the harmful effect of the film's smoking imagery. It is the cumulative exposure to smoking in films – not the amount of smoking in a particular film – that best predicts the effect on adolescents. Thus, subjective tobacco rating standards, including non-categorical exceptions, are not recommended.

17 The published Classification and rating rules (effective as of 1 January 2010) of the so-called Classification and Rating Administration jointly governed by the (private) MPAA and National Association of Theatre Owners make no reference to tobacco, smoking or cigarettes.

Box 3. Early WHO recognition of the problem of smoking in movies: World No Tobacco Day 2003

The World Health Organization has recognized smoking in movies as an important issue worthy of a serious response. In 2003, WHO chose the theme "Tobacco Free Film, Tobacco Free Fashion" for its annual commemoration of World No Tobacco Day (WNTD). The Organization called on the entertainment industry, in particular the industries of film and fashion, to stop promoting a product that kills every second regular user. It was supported by the Smoke Free Movies project (see under United States response, below) and, in particular, Hollywood and Bollywood were invited to join the multinational response to effectively restrict smoking imagery in movies. For more information on this past event, see:

http://www.who.int/tobacco/communications/events/wntd/2003/en/index.html

3. Country responses

By 2011, several countries had initiated tangible actions to reduce tobacco imagery in movies, either in the theatre environment or in ancillary exposure opportunities for DVD, Internet, cable and satellite. Actions in these countries will be reported in more depth in this section without evaluating how well they conform to the recommendations of the guidelines for Article 13 of the WHO FCTC or of this report.

Interest in this area of tobacco control is rapidly increasing at both the national and sub-national level. In many cases, the issue has been brought forward by civil society organizations, such as NGOs, who are recognizing this important gap in tobacco control efforts, and have started advocating for increased action. In other cases, governments are starting to examine the issue more closely.

- In Canada, since 2005, national and province-level health NGOs in Ontario (Toronto), British Columbia (Vancouver), and Quebec (Montreal), often with participation by local health departments, have allied to survey film content, evaluate film ratings, document public subsidies for movies with smoking, and endorse best practices (26). They have forwarded their endorsement to policy-makers in other parts of government concerned with film classification and tax policy, and embarked on public opinion polling and public education campaigns in support of policy change (85).

- In China, after several film content surveys were publicized by a Beijing-centred NGO (86), a 2011 central government directive banned certain tobacco imagery in films and television programmes and strongly urged film and television producers throughout the country to eliminate or minimize tobacco imagery.

- In India, as of July 2011, the Ministry of Health and Family Welfare is in ongoing discussions with the Ministry of Information and Broadcasting about the treatment of tobacco imagery in future films, amid a broader discussion of revisions to the overall film classification system.

- In Kenya, the Kenya Film Classification Board is the public regulator of films destined for public exhibition, distribution and broadcasting. The Board considers, among other things, the degree and frequency of use of tobacco products to determine the age suitability of films, although the weight of these criteria in the final rating of the film is not clear. As part of the enforcement of Kenya's 2007 comprehensive ban on tobacco advertising, promotion and sponsorship of tobacco products, the Board explicitly discourages the use of tobacco and appearance of tobacco brands in Kenyan entertainment products.

- On World No Tobacco Day, 2011, Malaysia's Minister of Health urged filmmakers to avoid tobacco depictions to protect the country's young people (87).

- In Nigeria, a regional leader in video production, the Senate passed legislation in 2011 banning any depiction of tobacco products in any medium including "films [and] brand placements" (88).

- In 2009, as part of a comprehensive ban on tobacco advertising, promotion and sponsorship, the Republic of South Africa banned the depiction of or reference to a tobacco product or brand element in exchange for payment in cash or otherwise in all entertainment media. Film or video transmission outside South Africa and not targeted primarily at people living in the country are exempted.

- In the United Kingdom in 2009, the council for Liverpool, which has the highest lung cancer rate in the country, started considering a move to override national film ratings and adult-rate future movies with smoking exhibited there. In 2010, the council decided to defer action until the United Kingdom-specific evidence linking on-screen smoking to youth smoking became available, something that occurred in July 2011 (45). Partially in response to Liverpool's actions, in early 2011, the Government convened a national consultation on the problem of on-screen smoking.

- In the United States, in 2009, with the support of leading national health NGOs, the Centers for Disease Control and Prevention announced that it would monitor adolescent exposure to on-screen tobacco imagery (89) and published the results of this monitoring in 2010 and 2011 in its widely read *Morbidity and Mortality Weekly Report* (7, 89). The U.S. Department of Health & Human Services made reduced youth exposure in motion pictures a priority in the nation's 2010 official anti-tobacco strategy (90) and, in 2011, the CDC endorsed the four policy solutions (including an adult content "R" rating for on-screen smoking) outlined by WHO in this report. In addition, the CDC called for state film subsidy programmes to be harmonized with their public health programmes by making films with tobacco ineligible for state subsidies (7).

3.1 China

China, the country with the largest number of smokers in the world, has been taking action to limit the amount of smoking on-screen, including in movies and in television productions. In 2006, the State Administration of Radio, Film and Television (SARFT) issued the Rule on Movie Screenplay (Abstract) Registration and Movie Film Administration that requires "excessive" scenes with smoking in films to be cut or modified, with SARFT's Film Review Committee having authorization to issue a permit or require modification of the reviewed movies (91). In 2008, SARFT reaffirmed that requirement in its Notice on Restating the Movie Review Standards in which the 2006 Rule is restated. Standards were reviewed again and, in 2009, SARFT issued the Notice on Strictly Controlling Smoking Scenes in Television Drama, which specifically required reductions in the length of smoking scenes and bans smoking scenes with minors in them, along with any type of tobacco advertising on television. Teleplays that included too many smoking scenes could not be nominated to any of SARFT "excellent assessment activities".

In 2011, SARFT issued the Notice on Strictly Controlling Smoking Scenes in Movies and Television Drama, which replaced the 2009 notice and strengthened measures to reduce on-screen smoking. The notice recognized the fact that widespread smoking scenes have a negative impact on the public, especially minors, and that they are out of line with the government objective of reducing tobacco use. The notice requires producers to minimize plot lines and scenes involving tobacco and

show smoking only when necessary for artistic purposes or character development. Other specific measures for movies and television drama included in the notice are the following:

- tobacco brand identity, related content and disguised tobacco advertisements are banned;
- smoking scenes shall not appear in scenes of public buildings or other places where smoking is banned or no-smoking signs are displayed;
- minors shall not be shown smoking or buying cigarettes nor shall they be present while others smoke;
- the number and length of smoking scenes in television dramas and movies should be limited;
- SARFT and its local counterparts will consider the number of smoking scenes before the movie or television drama can be approved for public showing.

The notice further advises that movie and television producers should try to find other forms of artistic expression that do not involve smoking and should edit remaining smoking scenes to be as short and infrequent as possible.

It is required that provincial radio and television administrative departments, China Central Television, and the People's Liberation Army (PLA) General Political Department Propaganda Division Art Office should assume the responsibility for management and supervision, urging producers under their jurisdictions to make smoke-free television dramas and guiding directors and actors not to shoot smoking scenes. Provincial movie review agencies and television drama broadcasting institutions are required to strengthen the review of films and television dramas before their screening and try to cut or reduce smoking scenes appearing in them (92).

Although foreign movies, including Hollywood blockbusters, are shown in China, the 2011 notice does not specifically mention entertainment media imported from other countries. However, foreign movies shown in China are already required to follow Article 23 of the 2006 Rule on Movie Screenplay (Abstract) Registration and Movie Film Administration. This requires that imported movies shall be reviewed according to Chapter 3 of the Rule, so that restrictions on smoking scenes apply to imported movies as well.

It is important to recognize that ongoing activities by the Chinese Association on Tobacco Control (CATC) have helped to bring about these SARFT regulations by bringing public attention to this issue. The Association has strategically made use of data showing the high levels of smoking imagery in Chinese movies and television productions. It has coordinated press conferences and organized celebrities, including film stars, to advocate for regulations to reduce such imagery. In response to CATC's initiatives, many film directors expressed their willingness to take more responsibility by reducing smoking scenes. In 2010, CATC also sent open letters to SARFT to appeal for a smoking ban on screen. Upon release of the 2011 directive, CATC held a press conference to praise the new notice and suggest detailed implementing regulations. The SARFT has announced that it will continue to review the directive with a view to including more specific implementation guidelines.

3.2 India

In 2003, the Government of India enacted a comprehensive tobacco law, the Cigarettes and Other Tobacco Products Regulation Act (COTPA), which includes a ban on tobacco promotion, and direct and indirect advertising of tobacco products (93). Because India's film market is relatively isolated from the pervasive tobacco imagery in United States-produced films compared with most other

countries, WHO and the Ministry of Health and Family Welfare (MoHFW) conducted a thorough study of tobacco and India's indigenous cinema industry in 2003, before the passage of the COTPA. Among the findings was the following (66):

- of the 395 top-grossing films in 1990–2002, 76% depicted tobacco use;
- tobacco incidents attributed to the lead actors grew from 22% (1991) to 54% (2002);
- tobacco branding made up fewer than 3% of tobacco incidents – half of all on-screen displays of brands marketed by the Indian Tobacco Company, British American Tobacco's long-time partner, occurred in 2002, immediately before the national advertising ban and the full entry of Philip Morris International into India's market.

After the COTPA barred tobacco advertisements in other media in 2004, a second study documented changes in Bollywood's tobacco imagery (94). This research found the following:

- of 110 Hindi-language films produced in 2004 and 2005, 89% depicted tobacco use;
- smoking incidents were attributed to lead actors in 76% of films;
- of the 2004-2005 films depicting tobacco use (41% of the total film sample), 46% included tobacco branding; 85% of films with tobacco brands displayed either BAT/ITC (58%) or PMI (27%) trademarks; and PMI's Marlboro brand dominated display in large-budget films.

The "before" study demonstrated that popular movies from north and south India paralleled the tobacco content of films produced in the United States in key aspects, including their influence on youth attitudes towards smoking. The "after" study found that tobacco imagery, including brand display, had markedly increased in the wake of tobacco advertising bans in other media.

In 2005, the COTPA's rules were refined to meet the challenge of smoking in the movies. When the advertising, promotion and sponsorship ban went into force, tobacco companies developed new marketing strategies to circumvent the law. Violations of the tobacco-advertising ban brought to the attention of the MoHFW included an increase in smoking and tobacco brand display in films. Consequently, on 31 May 2005, India amended its COTPA rules to clarify requirements and ensure full compliance. Amendments included a ban on all depictions of tobacco products and their use in films or on television.

- No individual person or character appearing in films for the cinema or television programmes shall display tobacco products or their use. Where, however, films and television programmes, which have been produced prior to this notification, contain scenes in them depicting smoking situations and the use of other forms of tobacco, it shall be mandatory to place a health warning as a prominent scroll at the bottom of the cinema or television screen in a legible black font on a white background. The text of the warning shall be "Smoking causes cancer" or "Smoking kills" for smoking forms of tobacco use, and "Tobacco causes cancer" or "Tobacco kills" for chewing and other forms of tobacco. The health warning shall be in the same language/s as that used in the film or television programme.

- Wherever brand names or logos of tobacco products form a part of the pictures to be printed in any form of print, outdoor media or footage to be aired through any form of electronic media, it shall be mandatory for the media to crop or mask the brand name and logos of the tobacco products to ensure that they are not visible (95).

These rules were to be implemented by the Ministry of Information and Broadcasting (MoIB), which maintained that there was need for flexibility and that the entertainment industry's freedom of expression should not be infringed. It was suggested that where there was creative justification for depicting tobacco, India's Central Board of Film Certification should grant an "A" (adult) film-rating certificate, which denies admission to any moviegoer under the age of 18 years. In October 2006, after numerous inter-ministerial consultations, the MoHFW relaxed provisions of the blanket ban to allow depictions of tobacco in some circumstances, with specific warnings.

- Warnings reading "Smoking kills", "Smoking causes cancer", "Tobacco kills" or "Tobacco causes cancer" should scroll under the depictions of tobacco use.

- Anti-tobacco spots, a minimum of 30 seconds long, should be screened at the beginning, middle and end of films and television programmes, both domestic and imported, that were produced before publication of the revised rules, and that are shown in theatres or aired on television with the exception of:
  - domestic and imported documentaries and public service spots displaying tobacco use shown in theatres or aired on television if they clearly and unambiguously reflect the dangers and dire consequences of tobacco;
  - live television coverage of news, current affairs interviews, public meetings, sports, cultural events, etc., in which there is a "purely incidental and completely unintentional" image of tobacco use.

- Where there is a creative justification for tobacco imagery or depiction of a real historical character that used tobacco, films and television programmes, domestic or imported, will be given an "A" certification accompanied by:
  - a recorded disclaimer from the actor concerned regarding the harmful effects of tobacco use;
  - an anti-tobacco health scroll, starting 60 seconds before the scene with tobacco and ending 60 seconds after.

The Indian Government's smoke-free movie efforts were challenged in the High Court by a Bollywood film producer and, in February 2008, the two-judge bench of the court produced a split verdict in the case. In January 2009, a High Court judge struck down the rules banning smoking scenes in films. The Government of India still maintains that the Constitution allows reasonable restrictions to promote public health and, in 2009, filed an appeal with the Supreme Court. The Supreme Court suspended the High Court's order. Subsequently, the Government decided to notify the Revised Smoke-free Movies Rules and hold negotiations with the MoIB in order to amend the proposed rules to make them more practical to implement. This negotiation is ongoing as of July 2011, including tobacco warning requirements and the clarification of objective criteria for any proposed exception to the Smoke-Free Movie Rules. This occurs amid broader discussion of revisions to the overall system for classification of films in India. Recent publication of a study finding that the greater the exposure that adolescents in India have to on-screen smoking, the more likely it is that they will smoke (46), has added urgency to these negotiations.

Indian films are viewed in over one hundred countries worldwide, attracting 25 million Indians working abroad and building a fan base in industrialized countries. Entry into the Indian film market is also a potential growth area for the United States film industry. For these reasons, national interventions in India can have a global impact on reducing youth exposure to tobacco imagery.

3.3 THE UNITED KINGDOM: SUB-NATIONAL AND NATIONAL EXPERIENCE

In 2011, the Government in the United Kingdom started considering measures to reduce tobacco imagery in films after initiatives on this issue began at the sub-national level in Liverpool.

Under the terms of the United Kingdom's Tobacco Advertising and Promotion Act, tobacco advertising in the print media, on billboards and in direct mail ended in 2003, and sponsorship of sport ended in July 2005. However, movies remain an important channel through which young people in the United Kingdom are still regularly exposed to pro-tobacco imagery.

The Centre for Tobacco Control Studies at the University of Nottingham estimated the number of tobacco impressions delivered by films in the United Kingdom accessible to young people. Merging historical, publicly available box office data and tobacco incidence data for films originating in India, the United Kingdom and the United States and released widely in theatres in the United Kingdom, researchers found that films rated for young people (below an "18" rating) delivered nearly 90% of tobacco impressions in the United Kingdom (27). Another study of the 15 most commercially successful films in the United Kingdom each year from 1989 to 2008 found tobacco in 70% of all films, 56% of which were rated as suitable for viewing by children aged younger than 15, and 92% for children aged younger than 18. Brand appearances were nearly twice as likely to occur in films originating wholly or in part from the United Kingdom (UK films). Specific brands appeared in 9% of all films and films rated as "15" had the largest proportion of brand display (96).

In 2010, the Government published a tobacco control strategy for England, a key objective of which was to "stop the inflow of young people recruited as smokers" (97). As part of this strategy, the Government recommended that smoking "must not be featured in programmes made primarily for children (defined as <15 years of age) unless there is strong editorial justification" and smoking "must not be condoned, encouraged or glamourized in other programmes likely to be widely seen or heard by under-18s unless there is editorial justification." However, only calling for restrictions on films that "feature" smoking that is "encouraged or glamourized" unless there is "strong editorial justification" still allows for smoking in virtually any film, because such terms are not clearly defined.

In 2011, the Government published a new tobacco control strategy in which they commit to "continue to work to reduce the depiction of smoking in the media, including through bringing together media regulators and the entertainment industry to consider what more can be done." (98)

Films in the United Kingdom are classified by the British Board of Film Classification (BBFC), an independent, nongovernmental body that was set up by the film industry in 1912 to bring a degree of uniformity to film ratings across the country. Significantly, the BBFC ratings are only advisory to the local councils that license films for exhibition. Statutory powers on film remain with the local councils, which may overrule any BBFC decision (99). While local councils have generally followed the BBFC advice, there are many examples where local authorities have not. As of June 2011, BBFC criteria for movies to receive an "18" rating (similar to an "R" rating in the United States) are as follows:

> *where material or treatment appears to the BBFC to risk harm to individuals or, through their behaviour, to society – for example, any detailed portrayal of violent or dangerous acts, or of illegal drug use, which may cause harm to public health or morals. (100)*

Concerned about the scientific evidence linking on-screen smoking to youth smoking initiation, and believing that the BBFC should be applying its existing classification rules to include smoking, a group of public health and community groups in Liverpool, collectively called SmokeFree Liverpool

(101), has taken a leading role in addressing this issue. The coalition, comprising 10 health-care agencies, public bodies, NGOs and private philanthropic organizations in northwest England, is advocating that local authorities exercise their licensing authority to apply an "18" rating to films with smoking shown in Liverpool. SmokeFree Liverpool asserts that existing BBFC criteria already justify this rating for movies that contain smoking.

The strategy developed by public health experts in the SmokeFree Liverpool network is to document the scope of the challenge, build national and international alliances and mobilize young people to press for ratings change within the film industry in the United Kingdom, both to protect young people and to influence film industry practices elsewhere. Early in the process, SmokeFree Liverpool and its local partners embarked on a series of briefings and consultations with regional and national partners to share information, and gather endorsements and plan strategy. Liverpool sponsored the first international conference on smoke-free movies in February 2008, welcoming representatives from the United Kingdom, other European countries, and the United States to discuss the role of youth movements (such as Liverpool's D-MYST and New York's Reality Check) in community education and advocacy, the place of smoke-free movies on national prevention agendas, and the global dimensions of smoke-free movie policy solutions.

After the BBFC turned down a request from D-MYST youth that new films with tobacco imagery be given an "18" rating, SmokeFree Liverpool began exploring the feasibility of an "18" rating in their own jurisdiction. Through these actions, SmokeFree Liverpool aims both to protect their communities and to influence the practices of film producers and distributors (the majority of which in the United Kingdom are controlled by United States-based companies) by exercising their right to override the national ratings. As a major export country for films made in the United States, these actions in the United Kingdom would have important implications for United States film distributors and would likely create an incentive for more youth-marketed movies to be smoke free.

SmokeFree Liverpool recognized the importance of communicating clearly to the public and stakeholders the rationale and benefits of the policy, countering any disinformation that arises and preparing a broad base of public understanding and support. This strategy has gained momentum since an announcement in July 2008 by the British Medical Association recommending that the BBFC take smoking "into consideration" when classifying films (102). Endorsement from the BMA immediately heightened public awareness of the need to act on smoking imagery in movies at the local level.

Accordingly, SmokeFree Liverpool implemented a communications plan to advocate for the initiative. The elements of this strategy include:

- raising awareness of the issue among the general public through media relations activity, paid-for outdoor advertising and road shows;
- demonstrating support for the measures by canvassing local people and collecting signatures for presentation to the BBFC and the local council;
- supporting activities of Liverpool's tobacco control youth group, D-MYST, who will rally their peers and speak out on the tobacco industry's manipulation of young people;
- producing fact sheets and paid-for open letters (national and local) calling on the BBFC to give an "18" rating to new films with smoking, and warning of possible local council action; and
- preparing the case for presentation to the Liverpool City Council if the BBFC (national) approach is unsuccessful.

The case for implementing a local adult rating for films with smoking was prepared and presented to Liverpool city council in mid-2009. The council subsequently undertook a three-month consultation on this proposal but declined to act during a full meeting at the end of 2009, instead asking for more research directly relevant to England and Liverpool. In mid-summer 2011, the Government convened a consultation on on-screen smoking and policy remedies.

3.4 THE UNITED STATES

The motion picture and cigarette industries in the United States grew rapidly after the First World War. By the end of the 1920s, studios brokered cigarette endorsement deals for movie stars under contract to them in return for national advertising campaigns paid for by the tobacco companies. The tobacco industry shifted spending to television in the 1950s, but after the United States Government banned broadcast advertising of tobacco products in 1970, systematic film placement of tobacco imagery intensified.

In 1989, reports of product placement in Hollywood films spurred the United States Congress to demand more detail on advertising expenditures from the tobacco companies. These data were to be used to improve United States Federal Trade Commission surveillance of cigarette marketing expenditures. However, the tobacco companies denied they bought product placement in films, and some companies failed to report ongoing payments to Hollywood agents as recently as the mid-1990s.

In response, health advocates implemented campaigns designed to educate film industry "creatives" (writers, directors, actors) about tobacco imagery's harmful effect, but these actions were essentially ineffective. In 1998, the states' Attorneys General and the five large United States-based tobacco companies entered into the Master Settlement Agreement (MSA). Among other things, this legal agreement prohibited the participating domestic cigarette companies from tobacco product placement in entertainment media. Because the MSA was an agreement between United States-based domestic tobacco companies and the states' Attorneys General, it did not cover overseas tobacco subsidiaries (65).

In 2002, the Smoke Free Movies project, based at the University of California, San Francisco's Center for Tobacco Control Research and Education (a WHO Collaborating Centre), set up a web site (*http://www.smokefreemovies.ucsf.edu*) and published a series of paid advertisements in entertainment trade journals. These advertisements suggested that smoking persisted in youth-rated films for one of two reasons (quoted verbatim from the paid ads): "Either people in Hollywood are still on the take, in which case they're corrupt ... or they're doing Big Tobacco's dirty work for free – in which case they're stupid." (103) Smoke Free Movies and its national NGO allies also developed and promoted a set of four evidence-based policy solutions intended to substantially and permanently reduce teenagers' exposure to on-screen tobacco imagery, without intruding on film content. These have provided the basis for the policy options described in Section 2.3 above (104).

The major motion picture studios, through the MPAA, at first took none of the steps advocated by American health experts and organizations. However, NGO tracking of individual studios' records and the steady accumulation of research evidence on the exposure of adolescents to smoking in the movies stimulated congressional hearings. In addition, Attorneys General from more than thirty states wrote letters to the companies that owned the major studios, stating that they were knowingly harming children by releasing films with tobacco imagery. In Los Angeles, where the Hollywood studios themselves are located, the County Department of Health Services was the first public health agency in the United States to endorse the four policy goals, beginning in 2002. Since then, its

publicity events and media briefings have regularly attracted international attention. Two congressional hearings (2004 and 2007) advanced the issue, leading three major studios to publish corporate policies for reducing smoking depiction in future youth-rated movies. The Commissioner of Health of the State of New York, where many of the major studios' parent companies are based, published full-page advertisements in The New York Times and other news media calling for action by the studio heads (105). Other state and local public health officials continue to join this campaign. In 2011, for example, the Chair of the legislative-mandated oversight Board for Tobacco Control in the State of California joined the Director of Los Angeles' Department of Public Health in calling for films with smoking to be disqualified for state movie production subsidies (106).

On the national level, the Institute of Medicine of the National Academies of Science (107), the National Cancer Institute (1) and the Centers for Disease Control and Prevention (7, 89, 108–111) have all noted the need for the film industry to change its practices.

In 2007, the MPAA announced that it would "consider" smoking in its ratings (82). In practice, however, the MPAA has not elevated film ratings for smoking but merely noted smoking in the rating labels attached to "independent" films given limited release, sparing most youth-rated films with smoking released by the MPAA's own member studios (83). In 2008, MPAA-member film studios agreed to deploy anti-tobacco spots, but only on youth-rated DVDs of movies with smoking distributed in the United States and, for some companies, in Canada.

In the United States, the public health community has mobilized health and medical professional organizations, youth groups, policy-makers, law enforcement, corporate investors, and health agencies at the national, state and municipal level. The aim has been to raise reputational and other costs for continued tobacco depictions in youth-rated films and to promote a consistent set of policy solutions that will reduce media companies' uncertainty about future liability.

The best evidence for the efficacy of this approach is that tobacco incidents in top-grossing, youth-rated movies in the United States have declined steadily and substantially since their peak in 2005. The average number of incidents per youth-rated movie fell from 20 in 2005 to seven in 2010, a 66% reduction; the degree of improvement, however, varied substantially by movie studio. The three companies with published policies designed to reduce smoking in their films (Disney, Time Warner and Comcast's Universal) reduced tobacco incidents per youth-rated (G/PG/PG-13) movie by more than 90%, to an average of fewer than two incidents per movie by 2010. The other companies (Sony, News Corporation's Fox, Viacom's Paramount, and independent film companies considered as a group) had 26–63% reductions and six to 14 tobacco incidents per youth-rated movie in 2010 (7). Published company policies, adopted between 2004 and 2007, provide for review of scripts, story boards, daily footage, rough cuts, editing decisions and the final edited film by managers in each studio with authority for implementing the policies. As of June 2011, none of the studios had blanket policies against including smoking or other tobacco imagery in youth-rated films that they produced or distributed. These results led the Centers for Disease Control and Prevention to conclude:

> *The fact that some major studios have excluded nearly all tobacco depictions from their youth-rated (G/PG/PG-13) movies shows that it is possible to make classes of motion pictures that do not feature smoking and other tobacco use. Inconsistent performance across the motion picture industry, however, threatens continuing progress toward eliminating youth-rated films as a major stimulus for youth smoking. Consistent with the policies adopted by the three studios demonstrating the greatest progress, modernizing the MPAA's R-rating to include smoking would create a level playing field and ensure that existing progress is not reversed. (7)*

Despite this progress, billions of tobacco impressions continue to be delivered to audiences and industry-wide incentives are not yet in place to eliminate the vast majority of smoking imagery from the movies that adolescents see most often. At the same time, the states that have subsidized top-grossing, youth-rated movies with smoking from 2008 to 2010 are spending as much on these films as they spend on tobacco control and prevention. In 2011, the CDC endorsed efforts by state policy-makers "to harmonize their state film subsidy programmes with their tobacco control programmes by limiting eligibility for subsidies to tobacco-free films" (7).

4. Conclusion

4.1 Lessons learned

Experience shows that whenever tobacco advertising and promotion is restricted in one medium, it migrates to another. Tobacco appearances in films accelerated in the United States while tobacco advertising in other media was being restricted, and in India a similar process occurred after tobacco advertising in other media was prohibited. Because smoking on screen is uniquely vivid and because young people see so many films so often, its promotional effect on smoking initiation is striking. Any country seeking to ban or restrict tobacco advertising and promotion must address the issue of smoking on screen or risk having its public health efforts being severely compromised. The most vulnerable age group (adolescents) should not continue to be exposed to the most powerful promotional channel for smoking imagery available in today's globalized economy. A comprehensive approach to combating smoking imagery in film is therefore required.

By implementing specific measures included in the WHO FCTC Article 13 guidelines, countries can reduce the impact of smoking in movies on youth-smoking initiation. Such measures have enormous potential for averting the growing burden of disease due to tobacco use, particularly in low- and middle-income countries.

4.2 Research priorities

Although the causal relationship between smoking imagery in the movies and smoking initiation has now been established, additional research on the impact of intervention policies would be desirable. For example, there are a number of research questions at national level to be addressed.

- How is the local film market regulated, including ratings, distribution rights and censorship?
- What are the economic arrangements between distributors, sponsors, advertisers, producers and public funding and taxation agencies for the production and distribution of movies?
- What mix of national (local) and internationally distributed films are shown in theatres? Distributed on video? Viewed via satellite?
- What is the tobacco imagery content in national movies?
- What methods could be effectively used to measure national adolescent exposure to tobacco imagery?
- What is the exposure of a specific national adolescent population to tobacco imagery?
- How do movies impact smoking initiation among young people in specific national contexts?

4.3 Going forward

Currently, tobacco kills nearly six million people each year. Tobacco is the only legal consumer product that kills half of its regular customers when used exactly as the manufacturer intended. As a truly toxic and addictive product, it has no place in films that are marketed to youth. With

approximately 100 000 young people around the world taking up smoking each day (112), it is imperative that countries avail themselves of best practice recommendations, such as those outlined in the Guidelines for the implementation of Article 13 of the WHO Framework Convention on Tobacco Control (Tobacco advertising, promotion and sponsorship).

Overall evidence suggests that voluntary and self-regulatory measures have not been successful. Advocacy approaches to obtain stronger labelling requirements (adult ratings) for movies showing smoking imagery as well as anti-smoking messages and assurances that no payoffs are received from the tobacco industry are already receiving wide support in several countries. It is clear that restrictions of smoking imagery in movies with wide global distribution will serve a larger, multinational public good. Thus, national approaches, and even local approaches, can have wide-ranging positive global effects. Multinational cooperation will also be critical in restricting the global reach of movie-based tobacco imagery.

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Annexes

ANNEX A. MOVIES: SHOWING ON SCREENS NEAR YOU

Motion pictures are watched in theatres but also on disk and increasingly through digital channels. Exposure to film content is vastly underestimated if limited to movie theatre attendance. In the United States, for example, feature films are viewed seven times more often on DVD than in theatres (113). In 2010, US$ 19 billion was spent on DVDs (74%), Blu-ray high-definition disks (12%), and broadband Internet access to movies (13%), twice the amount spent at the United States box office that year, with digital access to movies growing 15–20% annually (114). Rental and sale of DVDs dropped 44% in the United States as Blu-ray discs and video-on-demand channels took hold (115). In 2009, European consumers spent US$ 9.5 billion to buy or rent physical discs of all types, down 5% from the year before, with Blu-ray accounting for 7% of sales (116). The audience shift towards digital media is more marked because younger, more frequent moviegoers are leading the transition (117). An Internet industry study forecasts that three billion people (40% of world's population) will be connected to the Internet by 2015, with the explosive growth in connections and traffic led by video-capable, connected devices including phones and tablet computers (118).

Recorded sales do not, however, tell the entire story. Piracy of physical discs and the unlicensed downloading or sharing of movies on peer-to-peer (P2P) online networks leads to additional exposure; P2P copyright violators in particular tend to be young. A movie industry-sponsored survey of more than 20 countries in 2005 concluded that piracy – illegally reproduced DVDs and unlicensed Internet downloads – cost the global movie industry US$ 18 billion in cinema ticket sales and DVD sales and rentals (7). In 2008, a research firm estimated that online piracy cost the film industry in the United Kingdom as much as it earned through legitimate online channels (119).

ANNEX B. MEASURING EXPOSURES TO TOBACCO IMAGERY IN MOVIES

Assessing exposure to movie content is similar to assessing exposure to advertising. The best methods: (a) measure the reach of a particular movie in the population; and (b) assess how much smoking is in the movie (120).

One popular method determines which movies adolescents have watched and assesses these movies' tobacco content. Adolescents have been shown to recall movies they have seen, a year later, with 90% accuracy (120). It is not possible to ask every respondent about all available movies, so researchers have instead analysed a large sample (500–600) of recent top-grossing movies, then asked participants to pick out films they have seen from a randomly selected subsample of titles (120). The random subsample allows researchers to estimate the population's exposure to a relatively large sample of movies. However, exposure will still be underestimated because even 500-600 movies remains a fraction of all movies available through video discs, broadcast, video-on-demand and Internet download. Using this method, and a study population of more 6500 young people, Sargent and colleagues estimated that adolescents in the United States aged 10-14 were exposed to 13.9 billion tobacco impressions from movies seen in all media, between 1998 and 2003, with half the exposure coming from youth-rated movies (121).

Another method has used box office sales to estimate movies' reach in the population. Each film's box office gross earnings were divided by average ticket price in the year the movie was released to obtain the number of people who saw the movie. Determined by content coding, tobacco incidents in the movie were multiplied by the number of paid admissions to estimate the tobacco impressions delivered. Titus, Polansky and Glantz employed this method to estimate that more than 1700 top-grossing movies released to theatres in Canada and the United States between 1991 and 2008 delivered a total of 650 billion tobacco impressions to audiences of all ages, an average of 34 billion impressions a year in theatres alone (122). More recently, the team has published results showing that in-theatre tobacco impressions had declined to 17 billion by 2009 (89). Applying audience age composition data, gathered by market research companies for in-theatre advertising purposes, supported by audience demographic data published by the film industry, to the same dataset suggests that, on average, adolescents aged 12-17 years received about 18% of the total exposure, or about six billion tobacco impressions in theatres alone each year.

Anderson and colleagues (27) used similar methodology to assess exposure of British adolescents to smoking from 572 top-grossing films in the United Kingdom. They found 28% higher potential adolescent exposure to on-screen tobacco images in the United Kingdom than in the United States because many movies R-rated in the United States, and consequently with a smaller and older audience, were rated accessible to British adolescents without restriction. The study estimated that from 2001 to 2006, movies youth-rated in the United Kingdom delivered more than one billion tobacco impressions to children and adolescents aged 7-17 years.

Using different methods, these studies gave convergent results in the same scale (billions) despite the difference in methods and probably substantial underestimation. The delivery of billions of images of smoking on-screen, in dramatic and vivid movie contexts, contrasts starkly with traditional tobacco advertising. Because image-based tobacco advertising has been eliminated in many countries through the WHO FCTC, smoking images on screens large and small may now represent the vast bulk of media smoking images seen worldwide by adolescents.

ANNEX C. ESTIMATED PUBLIC SUBSIDY FOR TOP-GROSSING MOVIES WITH TOBACCO CONTENT, 2008–2010

Country	No. of movies[a]	No. of smoking movies	Film subsidy (US$ million)[b]	Subsidy for smoking movies (US$ millions)	In-theatre tobacco impressions delivered worldwide (millions)[c]
Australia	10	4	77	35	1956
Canada	49	16	398	113	8594
Czech Republic	4	3	42	25	398
France	4	3	31	21	89
Germany	6	5	76	67	11 058
Hungary	2	2	12	12	867
Ireland	1	0	5	0	0
Italy	4	4	32	32	1543
Luxembourg	1	0	7	0	0
Mexico	3	0	15	0	0
New Zealand	9	4	93	51	3694
South Africa	2	1	6	N/A	13
United Kingdom	25	13	297	131	14 374
United States	282	148	1307	653	89 869
Total	**402**	**203**	**US$ 2398**	**US$ 1140**	**132 455**

N/A not applicable.

a Movies ranked in the top 10 of box office earnings in any week of their initial theatrical release in the "domestic" (Canada and the United States) market, 25 December 2008-24 December 2010.

b For method, see Footnote 12. Subsidy was not estimated for 27 movies in the sample because no production budget was available. These included 16 movies with tobacco content: Canada (n=1); South Africa (n=1); the United Kingdom (n=1); and the United States (n=13). If the subsidy for the movies without published production is assumed to match the average for the rest of the sample, the subsidy for all top-grossing movies is estimated to be approximately US$ 2.5 billion and the subsidy for movies with smoking to total an estimated US$ 1.25 billion. Governments, including some not listed here, also grant substantial subsidies to so-called "national" films that may reach top box office rank in a language area or more broadly, and to numerous film projects that do not receive wide distribution or large viewership.

c Estimated on the basis of impressions delivered in "domestic" markets (tobacco incidents x paid admissions multiplied by 3) to capture estimated theatrical impressions delivered in other movie distribution territories worldwide (see Box 2).

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The Science

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