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Journal
Tobacco Control, 34(2)

ISSN
0964-4563

Authors
Wakefield, Tanner D
Guillory, Jamie
Ling, Pamela
et al.

Publication Date
2025-03-01

DOI
10.1136/tc-2023-058197

Descriptive cross-sectional survey of tobacco and cannabis restrictions on state and local film incentives in the USA

Tanner D Wakefield ,[1] Jamie Guillory,[2] Pamela Ling ,[3] Dorie E Apollonio [4]

► Additional supplemental material is published online only. To view, please visit the journal online (http://dx.doi.org/10.1136/tc-2023-058197).

[1]School of Nursing and the Center for Tobacco Control Research and Education, University of California San Francisco, San Francisco, California, USA
[2]RTI International, Dublin, Ireland
[3]School of Medicine and Center for Tobacco Control Research and Education, University of California San Francisco, San Francisco, California, USA
[4]School of Pharmacy and Center for Tobacco Control Research and Education, University of California San Francisco, San Francisco, California, USA

Correspondence to
Dr Dorie E Apollonio, University of California San Francisco, San Francisco, CA 94143, USA; dorie.apollonio@ucsf.edu

Received 5 June 2023
Accepted 5 November 2023

ABSTRACT

Background Reducing tobacco depictions in media has significant health benefits because tobacco placements in films normalise tobacco use and are linked to youth initiation. Cannabis depictions may have similar effects. Placing restrictions on film incentives has been suggested; however, it remains an unexplored strategy for reducing tobacco depictions. We investigated whether states and localities that offer film incentives have established funding restrictions to deter tobacco or cannabis depictions.

Methods We conducted a descriptive cross-sectional survey of official state and local government websites in the USA that listed film incentives. We coded policy level (ie, state, local), incentive type (ie, tax credit, rebate), incentive amounts, programme qualifiers and presence and characteristics of tobacco and cannabis restrictions.

Results Quantifiable tax incentives at the state level offered over \$1.6 billion to producers. Among 50 US states and Washington, DC, 39 provided film incentives: 4 restricted tobacco and 0 restricted cannabis. Among the 238 local film offices we identified, 24 offered incentives; 5 restricted tobacco and 1 restricted cannabis. All the incentive restrictions excluded tobacco or cannabis purchases from reimbursement; there were no penalties for tobacco or cannabis depictions.

Conclusions Film incentives are large financial commitments that may undermine public health since they allow depictions of tobacco and cannabis that contribute to initiation and use. Few states or localities limit film incentives related to tobacco or cannabis, and the existing restrictions are unlikely to deter depictions or product placement. Restrictions on incentives are an underused tool for deterring tobacco and cannabis depictions in film.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Tobacco depictions in film and television are linked to tobacco use and youth tobacco initiation. Previous research has explored using mandatory adult film ratings and antitobacco advertising to mitigate harm from tobacco depictions in media, but not the potential of using film incentives to limit tobacco depictions.

WHAT THIS STUDY ADDS

⇒ Although 38 US states and Washington, DC offered film incentives, only four states placed restrictions related to tobacco and none placed restrictions related to cannabis. Of the 238 local film offices we surveyed, five included restrictions on tobacco and one included restrictions on cannabis. These restrictions were limited to reimbursement of product purchases.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Our findings suggest that film incentives are an underused tactic for tobacco control that could be deployed to reduce harmful tobacco and cannabis depictions in media.

INTRODUCTION

Tobacco is the leading cause of preventable death in the USA.[1] As of 2020, cigarettes were the most popular tobacco product and 12.5% (30.8 million) of US adults smoked.[2 3] Among high school youth surveyed in 2022, 2% were current cigarette users and 14.1% were current electronic cigarette users.[4] One-third to one-half of smokers die from illnesses attributable to tobacco,[5] resulting in over 480 000 deaths annually in the USA.[6]

Tobacco use behaviours and initiation are influenced by exposure to tobacco depictions in movies,[7 8] episodic content,[9 10] social media[11] and possibly video games.[12] Tobacco depictions take multiple forms; tobacco branded product placements are where a branded product is shown or referred to, while tobacco use depictions are interactions with or consumption of tobacco products without necessarily displaying the brand. Although the Federal Cigarette Labeling and Advertising Act of 1966 prohibited cigarette ads on television and radio in 1971,[13] and the 1998 Master Settlement Agreement (MSA) between state Attorneys General and major tobacco companies prohibited branded tobacco product placements by US companies in traditional movies and television,[14] they did not prohibit depictions of tobacco products.[15] The US Surgeon General has determined that exposure to smoking in films causes youth smoking initiation[16] and films that include smoking depictions create an urge to smoke among adult tobacco users.[8] When adolescents are exposed to more tobacco depictions in films, their risk for smoking initiation also increases.[7] Adolescents whose favourite actors smoke in movies are more likely to smoke and express positive attitudes towards smoking, relative to adolescents whose favourite actors do not smoke in movies.[17] Adolescents exposed to more smoking depictions are more likely to become established smokers, and smoking exposures in popular media have been estimated as responsible for a third of transitions to established smoking among young

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To cite: Wakefield TD, Guillory J, Ling P, *et al*. *Tob Control* Epub ahead of print: [*please include* Day Month Year]. doi:10.1136/tc-2023-058197

adults.[18] Young adult never smokers are more likely to recall seeing tobacco and cannabis product depictions in films and episodic content (eg, television shows and streaming episodes) than they are to recall online ads.[19] The prevalence of tobacco depictions in the USA has global health implications, given that its media and entertainment industry is the world's largest,[20] with films displayed in over 130 countries.[21]

The impact of media on tobacco consumption has spurred calls to reduce tobacco content in movies and episodic content.[22] In the USA and internationally, the WHO, health providers and health non-profits have advocated for decreasing or eliminating smoking depictions in media to reduce health harms.[22] Some studies have explored assigning adult-only ratings to content to limit youth viewership and discourage programming containing tobacco depictions because films with mature ratings earn less revenue than family-rated films.[23] Placing antitobacco advertising before movies with tobacco depictions discourages use and increases antitobacco attitudes.[24 25]

Strategies to reduce tobacco depictions in media using financial incentives have received less attention. Health organisations have suggested withholding film tax incentives, which are government-provided subsidies to produce media in a particular location, as a potential mechanism for reducing tobacco depictions.[9] Historically, two states began offering film production incentives in 1997, when Hawaii and Minnesota provided tax credits for 5% of qualified expenditures.[26] By 2010, forty-one states had adopted tax incentives for film productions,[26] and as of March 2023, thirty-eight states and Washington, DC offered film incentives. We were unable to find research addressing the scope or effectiveness using restrictions on film incentives to limit tobacco depictions and product placements. The film and video industry incurred approximately $66 billion in overall expenses during 2021,[27] so linking these high-value film incentives with tobacco restrictions has the potential to discourage tobacco depictions by increasing production costs for films showing tobacco brands or use.

Film incentives would also apply to movies and episodic content produced for streaming services, which are not covered by existing product placement restrictions in the MSA. As a result, streaming services have little incentive to reduce or eliminate tobacco brand placements and tobacco depictions. Movies and episodic content produced for streaming services have become increasingly common since Netflix began releasing entirely original content in 2013,[28] and as of November 2022, there were 8877 original projects offered by 41 streaming services.[29] Tobacco brands appeared on Netflix's popular and youth-oriented show, Stranger Things, beginning in 2016[30 31] as well as in other programming. Tobacco depictions are more common in episodic content watched by 15–24 year-olds on streaming platforms compared with programming on traditional television channels.[32] Youth and adults increasingly rely on streaming services for entertainment more than traditional film and television outlets, and most of the episodic programming watched by young people is on streaming platforms.[9] The more that youth are exposed to tobacco and vaping content on streaming platforms, the higher the likelihood that they will initiate vaping.[9] Product placements in programming created for streaming platforms increase sales for individual brands and for cigarettes overall.[33]

In this study, we analysed websites describing film incentives for all 50 US states and Washington, DC to identify the restrictions, if any, related to tobacco or cannabis depictions or product placements. We also investigated whether states allowed producers receiving film incentives to purchase tobacco products with this support, including for use as props. In addition, we investigated if any policies applied to cannabis depictions. Although studies of cannabis depictions in media are limited, young adult never-smokers were more likely to recall cannabis product depictions in films and episodic content than in online ads.[19] While there is little research regarding the influence of cannabis depictions in media on cannabis use, the spread of cannabis legalisation, the fact that cannabis can be consumed in forms and devices similar to tobacco, and evidence that media depictions increase recall of use, led us to investigate the potential inclusion of cannabis in film incentive restrictions.

METHODS

We conducted a descriptive cross-sectional analysis of states and localities offering film incentives to detail the nature of these programmes, and whether they included tobacco or cannabis restrictions. Between September 2022 and March 2023, we collected programme data regarding film incentive programmes from state film office websites as well as other government websites. We then conducted searches within each state to identify local film offices (if any), local incentive programmes, and whether they included tobacco or cannabis restrictions. Specifically, we coded: (a) whether incentives were provided via tax credits, tax exemptions, reimbursements, rebates, grants, sales tax exemptions, other methods or a combination of these, (b) general characteristics of local incentive programmes, (c) the total amount of funds available through incentives, both per project and in aggregate, and (d) the presence and nature of tobacco or cannabis restrictions. We also collected programme fact sheets, guides, brochures, legislation and statutes where these were available. We calculated the total amount of incentives available for media production within each state, and identified whether the programme reduced those incentives if programming included tobacco or cannabis depictions or product placements.

Our study relied on publicly available data and did not involve human participants or potentially identifying information.

Data sources and sampling

The starting point for our search was a 2023 article by the film and television industry website Wrapbook that indicated 38 states and Washington, DC offered film incentives.[34] We added information from a 2021 list of state film incentives, with details of each programme, created by the National Conference of State Legislators.[35] We then searched the internet for potential programmes in states that were not listed in those sources. For each film incentive programme we identified, we collected details of the programme, including financial information, as well as statutes, legislation and administrative codes from related government websites. These included: state film programme websites; government legislative, administrative and statute databases; websites for local film offices and governments; and websites for other relevant government offices (eg, some states included information about film incentives on general tax or tourism websites).

Search strategy

We visited websites of the states identified through Wrapbook for which links were provided. For the states listed in Wrapbook that did not include links, we conducted online searches to identify official state film websites or other government web pages containing film incentive programme information. If state film office websites did not list the underlying statutes, legislation or administrative codes, we searched for this information using official state government databases. We conducted keyword searches of government databases and websites using variations of the terms 'film', 'movie' and 'incentive' to identify additional relevant data and read the regulatory codes that appeared as results of these searches. When states provided film programme names or branding, we used this information to enhance online and database searches.

We reviewed information posted on state and local film office websites, and city government websites to identify whether an area had a local film office, followed by additional web searches that incorporated identifying information from film industry websites, government websites and the names of cultural or population centres. Local offices were included if they were explicitly titled as a film office or were programmes run by a city or regional agency (eg, a film programme administered via a tourism office) and had an active website. We did not include programmes or offices that only included information on permits and did not provide resources. After searching for data in 50 states and Washington, DC, 238 programmes met our criteria.

We coded all relevant government web pages for information about film incentives to determine the nature and extent of the incentives available, how to qualify for the programme, the types of incentives offered, the total amount of funds available and whether the inclusion of tobacco or cannabis depictions or promotion would reduce or eliminate incentives. We recorded the nature of the film office programmes, financing and regulation based on programme brochures, fact sheets, guidelines and the text of legislation and statutes. We conducted keyword searches of the brochures, fact sheets, guidelines, statutes, legislation and administrative codes using the words tobacco, cigarette, cannabis, drug, marijuana and substance to identify restrictions. Study data were collected and managed using the Research Electronic Data Capture (REDCap) electronic data capture tool hosted at the University of California, San Francisco.[36 37] REDCap is a secure web-based software platform designed to support research studies, providing (1) an intuitive interface for validated data capture; (2) audit trails for tracking data manipulation and export procedures; (3) automated export procedures for seamless data downloads to common statistical packages; and (4) procedures for data integration and interoperability with external sources.

Analytical strategy

The data collection, analysis, coding and drafting process were guided by the Standards for Reporting Qualitative Research.[38] We coded each state individually, and within each state, we coded the presence of local or regional film offices, the number of offices, the presence and characteristics of film incentives and any restrictions on incentives related to tobacco or cannabis. The codes were developed and standardised inductively. The same coding and analytical process was repeated for local film programmes and incentives. When the appropriate coding or categorisation for a source was unclear, all four authors (TDW, JG, PL, DEA) discussed it to reach consensus.

RESULTS

State film incentives

Among the 50 states and Washington, DC, we found that 39 provided tax incentives for film and television projects while 12 did not (online supplemental table 1). States delivered incentives through multiple mechanisms that were not exclusive; overall, 23 employed tax credits, 3 used tax exemptions, 2 used reimbursements, 11 provided rebates, 6 offered grants and 10 provided sales tax exemptions. One state, Arizona, offered discounts for purchases and services via a public–private partnership system. Mississippi, which provided most of the incentives it offered via rebates, also reduced its tax rate to 1.5% for production equipment.

States offering incentives had total award amounts that ranged from \$5 500 000 to potentially unlimited. Eleven states did not specify a limit on potential incentives, either for a specific mechanism or in total. Among states that had a limit, the total ranged from a low of \$5 500 000 (Minnesota) to a high of \$420 000 000 (New York). The approximate total available funding through incentives, excluding the states that did not specify a limit, was \$1.639 billion. New York, California, Indiana, Louisiana and New Jersey offered the most funding through film incentives. Four states set no funding limits for individual projects, and 15 set a funding limit by tying incentives to the percentage of taxes incurred, production expenditures or other factors. In addition to credits and reimbursements, nine states offered sales tax exemptions related to film and media production, two offered general tax exemptions and Tennessee offered both.

Most states did not list any restrictions on film incentives related to tobacco or cannabis depictions or promotions. Among the 39 states with incentives, only four set limitations on funding that involved tobacco products: Minnesota, Nebraska, Tennessee and Texas all excluded tobacco product purchases from expenses that could be recouped through film incentives, which would cover purchases for consumption by project members or for use as props (table 1). We found no other incentive restrictions pertaining to tobacco, meaning that productions depicting tobacco use in every state could still obtain incentives and at the maximum or near-maximum levels. We also identified no restrictions on state film incentives that related to cannabis depictions or promotions.

Local or regional film incentives

Film incentives were less common at the local level; we identified 238 local or regional film offices in our search of 50 states. Of those, only 24 local or regional offices (10%), representing 12 states, offered incentives that were distinct from state programmes (table 2). Local film offices offered smaller financial awards through film incentives than state film offices; they ranged from \$7500 in tax rebates, and among the localities that set a limit on total awards amount, up to \$1 500 000—some places did not set a limit on total awards and could not be quantified (online supplemental table 2). Film incentives offered by

Table 1 States with tobacco restrictions on film incentives

State	Tobacco restrictions	Cannabis	State cannabis legality[39 40]
Minnesota	Prohibits reimbursement of any tobacco purchases.	None	Recreational/medical
Nebraska	Prohibits reimbursement of any tobacco purchases.	None	Illegal
Tennessee	Prohibits reimbursement of any tobacco purchases.	None	Illegal
Texas	Prohibits reimbursement of any tobacco purchases.	None	Illegal

Table 2 Local and regional film offices with tobacco and cannabis restrictions on film incentives

Place	Tobacco restrictions	Cannabis	State cannabis legality[39 40]
Fort Lauderdale, Florida	Prohibits reimbursement of any tobacco purchases.	Prohibits reimbursement for illegal products and services.	Medical
Sarasota County, Florida	Prohibits reimbursement of any tobacco purchases.	None	Medical
Maple Lake, Minnesota	Prohibits reimbursement of any tobacco purchases.	None	Recreational/medical
Upper Midwest, Minnesota (Duluth, St Louis County and Iron Range regional area)	Prohibits reimbursement of any tobacco purchases.	None	Recreational/medical
Fremont, Nebraska	Prohibits reimbursement of any tobacco purchases.	None	Illegal

local film offices and city governments generally pertained to crew wages, lodging expenses, an offset of expenditures made in the local community and tax exemptions. Among the 24 local offices offering incentives, only five excluded tobacco product purchases from reimbursement, and only one also excluded cannabis product purchases from reimbursement.

DISCUSSION

As of 2023, 89.5% of US states, and 79.2% of US localities that offered film incentives did not impose restrictions related to tobacco or cannabis depictions or promotions. Among the 38 states and Washington, DC with incentives, only Minnesota, Nebraska, Tennessee and Texas placed restrictions on incentives pertaining to tobacco. These four states' incentive programmes merely excluded reimbursement of film project expenses for any tobacco product purchases, either for consumption by project members or for use as props. There were no restrictions on tobacco depictions. No states had restrictions on film incentives for cannabis depictions or promotions. We found that out of 238 local film offices, 24 offered film incentives, and five of these programmes excluded tobacco product purchases from reimbursement, while only one excluded cannabis product purchases from reimbursement. Overall, our findings suggest that film incentives rarely restrict tobacco or cannabis depictions or promotions, and the restrictions that do exist focus exclusively on ensuring that spending on tobacco products is not reimbursed using government funds. Given the relatively low cost of tobacco product purchases compared with the overall value of the incentives, which ranged from \$5.5 million to \$420 million at the state level, these restrictions appear unlikely to reduce tobacco depictions or promotions. Instituting broader restrictions on film incentives, such as prohibiting film incentives for projects that include tobacco or cannabis depictions or promotions, seems more likely to reduce depictions and youth initiation. However, the effects of more comprehensive restrictions on film incentives remain theoretical because no policies of this kind exist in the USA. We were also unable to find studies assessing restrictions on film incentives related to tobacco in other countries.

Policymakers may resist restricting film incentives that are intended to support production in local economies. However, research has found mixed results regarding whether film incentives draw business, generate economic returns or influence filming locations.[26 39 40] A 2019 study found that film incentives increased the number of television projects in states with incentives, but were not associated with an increased number of movie projects.[39] The effects of film incentives on television projects increase over time, especially in states with medium or large film industries and in regions where multiple states provide film incentives.[39] A 2021 study focused on California found that film incentives increased both project budgets and the number of people hired as crew.[41] However, overall film incentives appear to have little effect on employment; some states that offer incentives have gained jobs while others have lost them.[42] As a result, there is little reason to anticipate that imposing restrictions related to tobacco on film incentives would harm states economically. In contrast, the return on investment for tobacco control is clear: California's tobacco control spending has generated \$231 for every dollar spent and saved \$816 billion in healthcare expenditures.[43]

Establishing restrictions on film incentives that disincentivise tobacco and cannabis depictions in media has the potential to protect public health and prevent the use of public funds in ways that conflict with existing government tobacco control efforts. For example, California allocated \$142.5 million for tobacco control to the California Department of Public Health during fiscal year 2021–2022,[44] at the same time that it allocated \$330 million to the state's film incentive programme, which does not have a policy intended to discourage tobacco depictions. Establishing restrictions on incentives for film and episodic projects that have cannabis or tobacco depictions or promotions, either for youth-rated productions only or for all productions, would create a financial incentive to eliminate these depictions.

Restrictions on film incentives to reduce tobacco or cannabis depictions or promotions are warranted given that smoking content results in health harms, financial costs, and undercuts continuing public health efforts to reduce tobacco use.[45] The creation of such restrictions in the USA would also have global tobacco control benefits. The US media and entertainment industry is the largest in the world and accounts for \$660 billion of \$2 trillion in total international media industry revenue.[20] US films are displayed in more than 130 countries,[21] and the expansion of streaming promises to further spread US entertainment content, including smoking content, to other markets. For example, online shows that were popular with young adults in India and that were produced in India had fewer tobacco depictions than popular US shows streaming in India.[46] India adopted robust restrictions in 2012 that required justification of tobacco depictions in content and antitobacco messages to accompany any tobacco instances, lowering tobacco depictions in Indian media over time.[47] This may be why US shows exposed more young adults in India to tobacco depictions than shows domestically produced there.[46] Efforts to reduce tobacco depictions in US media, if successful, would reduce tobacco imagery seen globally, potentially reducing youth initiation.

US tobacco control advocates should advocate for and support restrictions on film incentives for tobacco and cannabis depictions at the local and state levels. Although film incentives are available in 38 states and Washington, DC, the film industry is heavily regionalised, with most projects produced in California and New York.[42] Working to establish restrictions on film incentives in these states where the entertainment industry is most concentrated could have the greatest impact in reducing tobacco depictions. Advocacy at the local level may be more successful;

local policy adoption can increase the odds of state policy adoption.[48]

Our study has strengths and limitations. Film incentive programmes are dynamic, and it is possible that programmes were adopted, ended or modified after our data collection. In addition, state-level film programmes that did not have stated budget limits may have limits through state budget bills that we did not include in this study. We did not include local film programmes if they did not have an active website, so it is possible that some local film incentive programmes without a web presence were excluded. If a film production liaison was listed in a tourism department or similar agency, we did not count it as a film incentive programme if that liaison was not officially listed as representing film programmes or if the locality did not provide general film production services. In addition, it is possible that we did not include state and local laws that restricted tobacco or cannabis depictions for film incentives if they were included in legislation that was not specific to film incentives (eg, advertising or health regulations and laws). Additional research is needed to determine the existence, extent and outcomes of film incentives in other countries that restrict tobacco depictions. Nonetheless, this research provides a unique overview of state-level film incentives and the extent to which these programmes restrict spending on tobacco or cannabis products. Future research could explore if projects that received film incentives in the four states with tobacco product purchase exclusions had fewer tobacco depictions or product placements. In addition, if film incentive programmes increase restrictions for tobacco depictions, research could assess the effectiveness of different types of restrictions. Additional studies could address the economic impact of film incentives, taking into consideration the gains or losses in revenue compared with healthcare and public health-related costs of tobacco and cannabis use.

CONCLUSIONS

Our findings suggest that restrictions on film incentives are an underused tool for deterring tobacco and cannabis depictions in media. As of 2023, existing restrictions related to tobacco in film incentive programmes were limited, and restrictions relating to cannabis restrictions were non-existent. As a result, although film incentive programmes have the potential to deter tobacco or cannabis depictions or product placement, they are not used in this way. New policies that seek to reduce tobacco and cannabis depictions could help prevent the large government expenditures directed to film incentive programmes from undercutting ongoing spending intended to reduce tobacco and cannabis product use. They could also help reduce healthcare costs associated with tobacco-related disease and mortality that are paid by states. Overall, our findings suggest that state and local governments should consider modifying film incentive programmes to include restrictions that seek to limit tobacco and cannabis depictions and product placement in movies and episodic content, which, with successful implementation, could reduce youth tobacco use both in the USA and other countries.

Acknowledgements The authors acknowledge Rachel Taketa of the UCSF Library for assistance with document searches.

Contributors TDW: conceptualisation; methodology; software; formal analysis; investigation; data curation; writing—original draft; writing—review and editing; visualisation. JG: conceptualisation; methodology; writing—review and editing; supervision. PL: conceptualisation; methodology; writing—review and editing; supervision; funding acquisition. DEA: conceptualisation; methodology; software; validation; writing—original draft; writing—review and editing; supervision; project administration; funding acquisition.

Funding This work was supported by funding from the UCSF Center for Tobacco Control Research and Education.

Competing interests None declared.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available upon reasonable request made to the corresponding author.

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ORCID iDs
Tanner D Wakefield http://orcid.org/0000-0002-4434-3983
Pamela Ling http://orcid.org/0000-0001-6166-9347
Dorie E Apollonio http://orcid.org/0000-0003-4694-0826

REFERENCES

1 CDC. Health effects of cigarette smoking. Available: https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm [Accessed 01 Feb 2023].
2 Cornelius ME, Loretan CG, Wang TW, *et al*. Tobacco product use among adults - United States, 2020. *MMWR Morb Mortal Wkly Rep* 2022;71:397–405.
3 Park-Lee E, Ren C, Cooper M, *et al*. Tobacco product use among middle and high school students — United States. *MMWR Morb Mortal Wkly Rep* 2022;71:1429–35.
4 CDC. Youth and tobacco use | Smoking and tobacco use. Available: https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm [Accessed 17 Feb 2023].
5 Rigotti NA, Kruse GR, Livingstone-Banks J, *et al*. Treatment of tobacco smoking: a review. *JAMA* 2022;327:566–77.
6 CDC. Tobacco-related mortality. Available: https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/tobacco_related_mortality/index.htm [Accessed 18 Jan 2023].
7 Charlesworth A, Glantz SA. Smoking in the movies increases adolescent smoking: a review. *Pediatrics* 2005;116:1516–28.
8 Sargent JD, Morgenstern M, Isensee B, *et al*. Movie smoking and urge to smoke among adult smokers. *Nicotine Tob Res* 2009;11:1042–6.
9 Bennett M, Hair EC, Liu M, *et al*. Exposure to tobacco content in episodic programs and tobacco and e-cigarette initiation. *Prev Med* 2020;139:106169.
10 Gidwani PP, Sobol A, DeJong W, *et al*. Television viewing and initiation of smoking among youth. *Pediatrics* 2002;110:505–8.
11 Depue JB, Southwell BG, Betzner AE, *et al*. Encoded exposure to tobacco use in social media predicts subsequent smoking behavior. *Am J Health Promot* 2015;29:259–61.
12 Pérez A, Thrasher J, Cabrera N, *et al*. Exposure to tobacco in video games and smoking among gamers in Argentina. *Tob Control* 2019;28:427–33.
13 Federal Trade Commission. Federal cigarette labeling and advertising act. Available: https://www.ftc.gov/legal-library/browse/statutes/federal-cigarette-labeling-advertising-act [Accessed 23 Mar 2023].
14 No Author. The master settlement agreement: an overview [Public Health Law Center]. 2019. Available: https://www.publichealthlawcenter.org/sites/default/files/resources/MSA-Overview-2019.pdf
15 Smokefree Media. Certify no payoffs, Available: https://smokefreemedia.ucsf.edu/policy-solutions/certify-no-pay-offs [Accessed 01 Feb 2023].
16 U.S. Department of Health and Human Services. Preventing tobacco use among youth and young adults: 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; 2012. Available: http://doi.apa.org/get-pe-doi.cfm?doi=10.1037/e603152012-001
17 Tickle JJ, Sargent JD, Dalton MA, *et al*. Favourite movie stars, their tobacco use in contemporary movies, and its association with adolescent smoking. *Tob Control* 2001;10:16–22.
18 Dalton MA, Beach ML, Adachi-Mejia AM, *et al*. Early exposure to movie smoking predicts established smoking by older teens and young adults. *Pediatrics* 2009;123:e551–8.
19 Krueger EA, Bello MS, Unger J, *et al*. Sociodemographic differences in young adults' recall of tobacco and cannabis marketing online and in television/film. *Prev Med Rep* 2021;24:101592.
20 Media & entertainment. Available: https://www.trade.gov/media-entertainment [Accessed 20 Jan 2023].

21 No Author. MPA comments regarding the 2021 national trade estimate report on foreign trade barriers. Washington DC Motion Picture Association; 2020. 85. Available: https://www.trade.gov/sites/default/files/2021-02/MPA%202021%20NTE%20Report%20Filing_0.pdf
22 Smokefree Media. Endorsements. Available: https://smokefreemedia.ucsf.edu/take-action/endorsements [Accessed 31 Jan 2023].
23 Sargent JD, Tanski S, Stoolmiller M. Influence of motion picture rating on adolescent response to movie smoking. *Pediatrics* 2012;130:228–36.
24 Hanewinkel R, Isensee B, Sargent JD, *et al*. Effect of an antismoking advertisement on cinema patrons' perception of smoking and intention to smoke: a quasi-experimental study. *Addiction* 2010;105:1269–77.
25 Harakeh Z, Engels RCME, Vohs K, *et al*. Exposure to movie smoking, antismoking ads and smoking intensity: an experimental study with a factorial design. *Tob Control* 2010;19:185–90.
26 Bradbury JC. Do movie production incentives generate economic development? *Contemporary Economic Policy* 2020;38:327–42.
27 Statista. U.S. film & Video Industries' spendings 2007-2021. Available: https://www.statista.com/statistics/185312/estimated-expenses-of-us-motion-picture-and-video-industry-since-2005/ [Accessed 01 Feb 2023].
28 "House of cards," Netflix's first original series, starts streaming. Available: https://www.history.com/this-day-in-history/house-of-cards-netflix-first-original-series-starts-streaming [Accessed 10 Apr 2023].
29 Media Play News. Netflix still on top in terms of original content, with 37% of all movies and shows. n.d. Available: https://www.mediaplaynews.com/netflix-still-on-top-in-terms-of-original-content-with-37-percent-of-all-movies-and-shows/
30 No Author. While you were streaming: smoking on demand. Washington, DC Truth initiative; 2019. Available: https://truthinitiative.org/sites/default/files/media/files/2019/07/WUWS-SOD-FINAL.pdf
31 Sergey. Camel, Schlitz And Jameson In Stranger Things: The Flea And The Acrobat. *Product Placement Blog* 2017. Available: https://productplacementblog.com/tv-series/camel-schlitz-and-jameson-in-stranger-things-the-flea-and-the-acrobat-2016/ [Accessed 20 Sep 2023].
32 Rath JM, Bennett M, Vallone D, *et al*. Content analysis of tobacco in episodic programming popular among youth and young adults. *Tob Control* 2020;29:475–9.
33 Goli A, Mummalaneni S, Chintagunta PK, *et al*. Show and sell: studying the effects of branded cigarette product placement in TV shows on cigarette sales. *Marketing Science* 2022;41:1163–80.
34 Wrapbook. Film industry tax incentives: state-by-state. 2023. Available: https://www.wrapbook.com/blog/film-industry-tax-incentives [Accessed 15 Mar 2023].
35 Film tax incentives back in the spotlight. Available: https://www.ncsl.org/fiscal/film-tax-incentives-back-in-the-spotlight [Accessed 22 Feb 2023].
36 Harris PA, Taylor R, Thielke R, *et al*. Research electronic data capture (REDCap)--A metadata-driven methodology and workflow process for providing translational research informatics support. *J Biomed Inform* 2009;42:377–81.
37 Harris PA, Taylor R, Minor BL, *et al*. The REDCap consortium: building an international community of software platform partners. *J Biomed Inform* 2019;95:103208.
38 O'Brien BC, Harris IB, Beckman TJ, *et al*. Standards for reporting qualitative research. *Academic Medicine* 2014;89:1245–51.
39 Button P. Do tax incentives affect business location and economic development? evidence from state film incentives. *Reg Sci Urban Econ* 2019;77:315–39.
40 Owens MF, Rennhoff AD. Motion picture production incentives and filming location decisions: a discrete choice approach. *J Econ Geogr* 2020;20:679–709.
41 Workman A. Ready for a close-up: the effect of tax incentives on film production in California. *Economic Development Quarterly* 2021;35:125–40.
42 Adkisson RV. Policy convergence, state film-production incentives, and employment: a brief case study. *J Econ Issues* 2013;47:445–54.
43 Lightwood JM, Anderson S, Glantz SA. Smoking and healthcare expenditure reductions associated with the California tobacco control program, 1989 to 2019: a predictive validation. *PLoS One* 2023;18:e0263579.
44 No Author. California Department of public health funding for the tobacco control branch [California Department of Public Health]. 2021. Available: https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CTCB/CDPH%20Document%20Library/AboutUS/ProgramBudget/2021BudgetGraphs-4.pdf
45 Millett C, Polansky JR, Glantz SA. Government inaction on ratings and government subsidies to the US film industry help promote youth smoking. *PLoS Med* 2011;8:e1001077.
46 Arora M, Nazar GP, Chugh A, *et al*. Tobacco imagery in on-demand streaming content popular among adolescents and young adults in India: implications for global tobacco control. *Tob Control* 2021;30:42–8.
47 Nazar GP, Arora M, Sharma N, *et al*. Changes in tobacco depictions after implementation of tobacco-free film and TV rules in Bollywood films in India: a trend analysis. *Tob Control* 2023;32:218–24.
48 Shipan CR, Volden C. Bottom-up federalism: the diffusion of antismoking policies from U.S. cities to states. *American J Political Sci* 2006;50:825–43.