



# **Relation between Televised Anti-Smoking Advertising and Youth Smoking in the United States**

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**Funded by:**

**State and Community Tobacco Control Initiative  
US National Cancer Institute  
and  
The National Institute on Drug Abuse**





# Research team

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# Background

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- Anti-smoking advertising can reduce youth smoking
- Most studies involve research demonstration projects, effects of tobacco control advertising at the state level or national level
- Huge variation in exposures over time and between US communities in exposure to anti-smoking advertising = natural experiment

## Background (cont'd)


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- Little analysis of effects of tobacco company advertising ... undermining effects?
- Little attention to effect of pharmaceutical company advertising for nicotine replacement therapy and Zyban on youth smoking ... may increase youth optimism about quitting?



## Research aims

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- Describe the amount and type of televised anti-smoking advertising to which youth in different communities are exposed
  - Examine the relationship between amount and type of anti-smoking advertising and youth smoking
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# Research hypotheses

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Exposure to anti-smoking advertising on TV is associated with:

- increased recall of anti-smoking ads
- increased anti-smoking attitudes and beliefs
- reduced adolescent smoking

## Study design: outcome measures

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- Monitoring the Future survey data from 50,000 youth each year from 1994-2002
- School-based sampling frame
- Smoking attitudes and behaviors of 8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> graders
- Individual level records for each youth



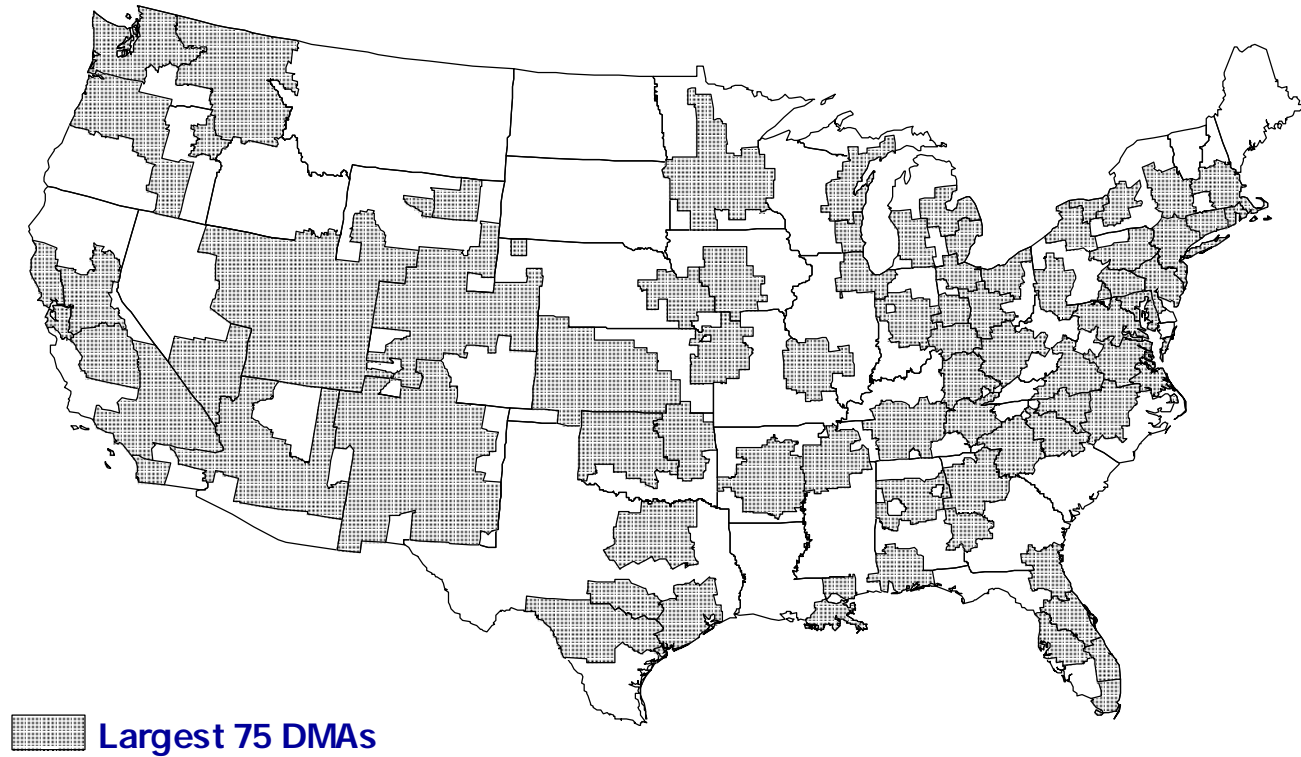
## Study design: exposure measures

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- Archival records of televised anti-smoking advertising from Nielsen Media Research
  - 1994 - 2002
  - Top 75 Designated Market Areas (DMAs) covering 80% of US population
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# Designated market areas (DMAs)



# Exposure measure: gross rating points

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- Expresses the percentage of households in DMA exposed to one viewing of an ad – if 1% of households see ad one time, ad earns 1 gross rating point (GRP)
- Exposures to multiple ads on multiple channels are estimated by summing GRPs over time
- Aggregated monthly to estimate the average number of times an ad is exposed to an audience per month
  - 100 GRPs/month = av. 1 exposure/month
  - 250 GRPs/month = av. 2.5 exposures/month
- Exposures are averages across the population in the DMA

# Exposure measure: gross rating points

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We now have monthly media market level aggregate records of household GRPs and for the target audience 12-17 year olds (TRPs) for:

- Almost all anti-smoking ads that appeared on US TV
- Identified by advertiser (tobacco control agencies, tobacco companies, pharmaceutical companies)
- TODAY, presenting a preliminary analysis of effect of tobacco control anti-smoking ads on youth in 18 media markets in 1998-2000

# Sample descriptives

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**18 DMAs** = 14 with state campaigns, 4 without

**N** = 53,441 youth

**Mean age** = 15.4 years

**Smoked in last month** = 19.7%

**Watch 3+ hrs TV per day** = 47.5%

**Tobacco control GRPs/month**: mean 5.5 (s.d. = 3.8)

**Tobacco control TRPs/month**: mean 4.0 (s.d. = 3.9)

# Statistical analyses

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- Used monthly exposures for 6 months prior to survey administration
- Used decay function of cumulative exposure, where past advertising is discounted ( $\lambda = .3$ ; Pollay et al., 1996)
- Regression analyses adjusting for clustering by school using STATA 7.0
- Adjusted for other advertisers, av. TV watched/day, year, gender, race, grade in school, parental education, earned income, TV-GRP/TRP interactions, quadratic TRP/GRP

## Results: TRPs (adjusted for covariates)

	Tob Control TRP 8-10th	Tob Control TRP 12
Recall anti-smoking ads	1.22	1.32
Dislike being near smokers	1.09	1.16
Definitely will NOT smoke in 5 yrs	ns	1.12
Peers disapprove of smoking occasionally	ns	1.14
Current smoking	0.94	0.89

\*12<sup>th</sup> grade models do NOT include TV watching-related variables

## Results: GRPs (adjusted for covariates)

	Tob Control GRP 8-10th	Tob Control GRP 12
Recall anti-smoking ads	1.16	1.26
Dislike being near smokers	1.12	1.12
Definitely will NOT smoke in 5 yrs	ns	1.10
Peers disapprove of smoking occasionally	1.06	1.10
Current smoking	0.91	0.91

\*12<sup>th</sup> grade models do NOT include TV watching-related variables

# Conclusions

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Higher exposure to tobacco control anti-smoking advertising may be associated with:

- higher recall of anti-smoking ads
- higher likelihood of reporting anti-smoking attitudes
- reduced likelihood of smoking



## Next steps

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- Analysis presently underway in 74 of the top 75 markets
- Improved labeling of advertiser categories, especially tobacco company ads
- All ads labeled by theme, target audience, executional characteristics