

Leah M. Ranney, PhD¹; Kristen L. Jarman, MSPH²; Tara L. Queen, PhD²; Adam O. Goldstein^{1,2}

1. University of North Carolina School of Medicine, Department of Family Medicine, Chapel Hill, North Carolina, USA;
2. Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, North Carolina, USA

Background

- The US Food and Drug Administration (FDA) launched *The Real Cost* media campaign in 2014
- Early findings suggest FDA *The Real Cost* campaign successfully attained national awareness among youth¹
- 88% of adolescents age 13-17 years report hearing or seeing at least one of four FDA *Real Cost* ads²
- This study examines the diffusion of the FDA *Real Cost* media campaign among US adults

Methods

- National Phone Survey of 4964 adults, completed from August 2016 – May 2017
- 25-minute telephone survey about health and opinions about cigarettes and other tobacco products
 - 18 year olds and older
 - Tobacco users and non users
 - U.S. residence
- Survey measures assessed recall of the FDA *Real Cost* ads and slogan
- 1/3 of the participants were randomized to the FDA *Real Cost* slogan survey item
- Participants randomized to answer questions about five ads, 3 of which were FDA *Real Cost* ads (Table 1.)
- Weighted logistic regression models examined association between FDA *Real Cost* ads and slogan recall



Corresponding Author:
Leah M. Ranney, PhD
Leah_ranney@unc.edu

Results

Table 1. Survey Items and Percent Recalled

Item	Survey Questions	Percent
1	Have you ever seen or heard any ads on television or radio with the slogan, "The Real Cost"?	26.1%
2	In the last year, have you seen or heard any anti-smoking ads where a tiny man bullies a teenager?	25.0%
3	In the last year, have you seen or heard any anti-smoking ads where a scary, insect-like creature appears in a high school science class or under the bleachers?	32.0%
4	In the last year, have you seen or heard any ads about the harms of smokeless tobacco showing a young man with scars from mouth cancer?	49.1%

Table 2. Weighted Sample Characteristics (N= 4964)

Sex	%
Male	48.6%
Female	51.4%
Age Group	
18-24 years	12.9%
25 years and Up	87.1%
Racial Group	
White	66.9%
African American	19.9%
American Indian	3.0%
Asian	2.1%
Pacific Islander	0.7%
Other/Unknown	7.3%
Ethnicity	
Latino	14.5%
Non-Latino	85.5%
Household Income	
Below Poverty Line	18.5%
At or Above Poverty Line	81.5%
Education	
Less than High School	11.1%
High School Diploma or More	88.9%
Tobacco use in Last 30 Days	
Tobacco Users	26.0%
Not a Tobacco Users	74.0%

Table 3. Weighted Logistic Regression of Likelihood to Recall Slogan

Covariate	Odds Ratio	Upper 95% CI	Lower 95% CI	P Value
Sex				
Male	1.17	0.76	1.80	0.48
Female	Ref			
Age Group				
18-24 years	3.35	1.82	6.15	<0.0001
25 years and Up	Ref			
Racial Group				
White	Ref			
African American	0.99	0.61	1.61	0.37
American Indian	1.16	0.38	3.53	0.39
Asian	0.65	0.15	2.79	0.87
Pacific Islander	0.34	0.03	4.10	0.48
Other/Unknown	0.59	0.14	2.53	0.75
Ethnicity				
Latino	1.32	0.59	2.96	0.50
Non-Latino	Ref			
Household Income				
Below Poverty Line	0.64	0.35	1.15	0.13
At or Above Poverty Line	Ref			
Education				
Less than High School	Ref			
High School Diploma or More	1.56	0.76	3.23	0.23
Tobacco use in Last 30 Days				
Tobacco Users	1.90	1.19	3.06	0.01
Not a Tobacco Users	Ref			

Table 4. Weighted Logistic Regression of Likelihood to Recall Ads

Covariate	Odds Ratio	Upper 95% CI	Lower 95% CI	P Value
Real Cost Ad				
Bully	Ref			
Creature	1.29	0.87	1.90	0.07
Smokeless	3.00	2.07	4.36	<0.0001
Sex				
Male	1.65	1.22	2.24	0.001
Female	Ref			
Age Group				
18-24 years	1.99	1.28	3.10	0.002
25 years and Up	Ref			
Racial Group				
White	Ref			
African American	1.47	1.01	2.15	0.04
American Indian	0.49	0.15	1.58	0.24
Asian	1.45	0.54	3.93	0.29
Pacific Islander	0.66	0.15	3.00	0.64
Other/Unknown	0.76	0.36	1.61	0.64
Ethnicity				
Latino	1.51	0.91	2.50	0.11
Non-Latino	Ref			
Household Income				
Below Poverty Line	1.57	1.04	2.36	0.03
At or Above Poverty Line	Ref			
Education				
Less than High School	Ref			
High School Diploma or More	1.82	1.05	3.14	0.03
Tobacco use in Last 30 Days				
Tobacco Users	1.03	0.74	1.44	0.85
Not a Tobacco Users	Ref			

Implications and Conclusions

- The FDA *Real Cost* Campaign launched nationally in 2014 across multiple media platforms targeting adolescents has diffused to important adult populations
- FDA *Real Cost* ad themes diffused to younger adults resulting in greater likelihood of ad recall over older adults
- Younger adults also more likely than older adults to have recalled the *Real Cost* slogan
- Tobacco users (within the last 30 days) more likely to recall the *Real Cost* slogan than non users
- More adults recalled the *Real Cost* Smokeless ad than the Bully ad
- Males, African American, with a high school diploma or more, those living below the poverty line, have higher likelihood of recall for the *Real Cost* ads
- Real Cost* ads reached vulnerable adults populations (i.e., younger, minority, low SES)
- Potential impact of *Real Cost* on adult populations and tobacco use needs further research

References

¹Zhao, X, Alexander, TN, Hoffman, L, et al. Youth receptivity to FDA's *The REAL Cost* Tobacco Prevention Campaign: Evidence from message pretesting. *J. Health Commun.* 2016 Nov; 21(11): 1153-1160.
²Huang, L, Lazard, AJ, Pepper, JK, Noar, SM, Ranney, LM, Goldstein, AO. Impact of The *Real Cost* Campaign on Adolescents' Recall, Attitudes, and Risk Perceptions about Tobacco Use: A National Study. *Int J Environ Res Pub Health* 2017 Jan 4; 14(1). doi:10.3390/ijerph14010042.

Research reported in this publication was supported by grant number P50CA180907 from the National Cancer Institute and FDA Center for Tobacco Products (CTP). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the Food and Drug Administration. The authors have no conflict of interest to report.