

# Policy Changes Lead to Decreases in Smoking Prevalence The Louisiana SimSmoke Model

January 2014

## Introduction

- The Louisiana SimSmoke model is a dynamic simulation technique that was used to investigate the relationships between past and future state policies and smoking prevalence in Louisiana.

## Methodology

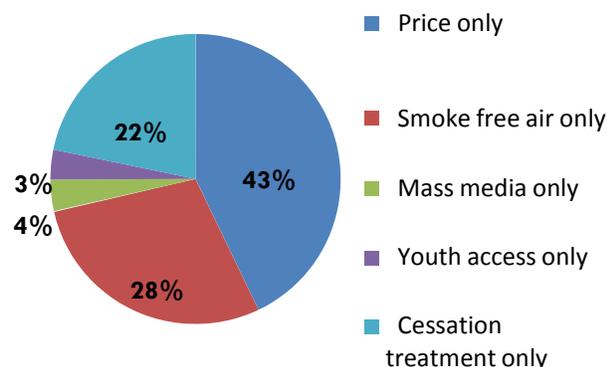
- In order to build the SimSmoke model, publicly accessible data was located and entered into three different modules that make up the model: Population, Smoking, and Policy.
- Population-level data, such as fertility and mortality rates, were gathered from reliable sources (e.g. U.S. Census and National Center for Health Statistics) and entered into the model for a span of two decades (1993-2013). Behavioral data, such as smoking prevalence, initiation, and cessation rates, were collected from national surveys (e.g. Tobacco Use Supplement to the Current Population Survey). Data documenting the reach of smoke-free policy across the state and annual tax prices were collected from the University of Illinois at Chicago’s ImpacTeen website and the Campaign for Tobacco-Free Kids.
- After completing complex calibration techniques, the model was used to evaluate:
  - The effect of past policies on the reduction of prevalence during the past 20 years (1993-2013).
  - The effect of simulated policy change on decreases in smoking prevalence in the next 40 years (2014-2054).

## Results

### Past Policy Effects

- The Louisiana SimSmoke model demonstrates that the state policy in the past 20 years accountable for the largest proportion, (43%) of the reduced smoking prevalence is the *price of cigarettes*, followed by *implementation of smoke-free air laws* (28%).

Past Policy Effects on Male and Female Smoking Prevalence, 1993-2013



### Simulated Policy Effects

- The Louisiana SimSmoke model was also used to project reductions in smoking prevalence for both males and females by 2054, as well as total number of “lives saved” between 2014 and 2054. Based on these findings, a tax increase of \$1 or \$2 will serve as the most powerful policy for reducing smoking prevalence and saving lives over the next 40 years.
- Projections suggest that a tax increase will be even more effective if implemented with additional policies related to smoke-free air, youth access enforcement, and cessation.

Simulated Policy Effects, 2014-2054

## Conclusions

- Price increases** in tobacco products account for the *majority of the reduction* in Louisiana smoking prevalence in the past twenty years. Tax increases have the potential to continue decreasing the smoking prevalence in the future, while simultaneously saving thousands of lives.

Simulated Policy	Reduction in Smoking by 2054		Lives Saved 2014-2054
	Males	Females	
Tax increase 1\$	-5.0%	-4.9%	4,888
Tax Increase 2\$	-8.8%	-8.5%	8,705
Complete Smoke-Free Air	-3.3%	-3.4%	5,010
Strong Youth Access Enforcement	-3.7%	-2.2%	428
Cessation Treatment Policies	-4.3%	-5.1%	10,745
All Policies + 1\$ Tax Increase	-19.2%	-18.8%	26,523
All Policies + 2\$ Tax Increase	-22.5%	-22.0%	29,883