

Reducing Tobacco Use and Secondhand Smoke Exposure: Comprehensive Tobacco Control Programs Summary Evidence Table

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Arizona Studies

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Lightwood, 2011</p> <p>Study design: Panel study</p> <p>Quality of execution: Fair</p>	<p>Location: Arizona, USA</p> <p>Program scale: State</p> <p>Implementation date: 1996</p> <p>Intervention environment: NR</p> <p>Program funding: NR</p> <p>Program details: Reported in study: media campaigns that focuses on youth uptake of smoking; Reported in broader literature: Mass media and sponsorships Local grants for school programs, cessation, protection from secondhand smoke exposure Quitline Statewide projects and evaluation</p> <p>Comparison: 38 control states that did not have substantial tobacco control programs; and did not increase the price per pack of cigarettes more than \$0.50 over the duration of the study; Overall results compared to California as well</p>	<p>Study period: 1976-2004</p> <p>Study population: Smokers in Arizona</p>	<p>Annual per capita cigarette consumption (packs sold per capita per year)</p> <p>Cumulative per capita tobacco control expenditure compared between AZ and control states; the differences between the funding levels used as independent variable;</p>	<p>N/A</p>	<p>Annual change in cigarette consumption in association with increases in funding for comprehensive tobacco control programs</p>	<p>For each \$1.00 increase in the differences in cumulative per capita tobacco control expenditures, there is an increase in the difference in cigarette consumption by estimated 0.190 (SE 0.0780) packs per capita;</p> <p>Arizona's program associated with reduction of 46.4 million packs smoked in 2004, and a cumulative reduction of 200 million packs between 1996 and 2004</p>	<p>There is a strong association between per capita program expenditure and per capita cigarette sales, with a reduction of annual per capita cigarette consumption with the initiation of the comprehensive tobacco control program in AZ.</p>

California Studies

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Al-Delaimy, 2007</p> <p>Study design: Time series with concurrent comparison group, interval</p> <p>Quality of execution: Good</p> <p>No description of study population</p>	<p>Location: California, US</p> <p>Program scale: State</p> <p>Implementation date: 1989-1991</p> <p>Intervention environment: Tobacco excise tax in 1989; smoking ban in workplaces in 1994</p> <p>Program funding: Funded through a dedicated increase in tobacco excise tax; during 1990s, funded at \$3.67 per person per year</p> <p>Program details: Community programs, mass-media counter-advertising campaign; smoking cessation services; school and community initiatives against smoking</p> <p>Comparison: NY/NJ and 6 tobacco growing states: KY, TN, NC, SC, VA, GA</p>	<p>Study period: 1992-2002</p> <p>Study population: Non-Hispanic whites only; 20-64 years of age; daily smokers</p>	<p>Average number of cigarettes smoked per day for daily smokers (unadjusted)</p> <p>Consumption: annual change in # of cigarettes/day (adjusted for gender, four levels of education, household income in \$2001)</p>	<p>1992: 20-34yrs old CA 16.7 NY/NJ 19.0 TGS 20.8</p> <p>35-49yrs old CA 20.8 NY/NJ 21.3 TGS 23.8</p> <p>50-64yrs old CA 22.3 NY/NJ 21.0 TGS 22.4</p> <p>Comparisons</p> <p>Age NY/NJ 20-34 -0.25 35-49 -0.22* 50-64 -0.23</p> <p>Age TGS 20-34 -0.32 35-49 -0.19* 50-64 -0.09*</p>	<p>2002: 20-34yrs old 14.7 16.3 17.6</p> <p>35-49yrs old 16.8 19.3 22.0</p> <p>50-64yrs old 18.5 19.2 21.5</p> <p>California</p> <p>Age CA 20-34 -0.19 35-49 -0.41 50-64 -0.42</p> <p>*Statistically significant</p>	<p>Relative Change RR</p> <p>-12.0% 0.880 -14.2% 0.858 -15.4% 0.846</p> <p>-19.2% 0.808 -9.4% 0.906 -7.6% 0.924</p> <p>-17.0% 0.830 -8.6% 0.914 -4.0% 0.960</p>	<p>Larger decreases in consumption were observed in California compared to NY/NJ and TGS in all age groups, except 20-34 year-olds.</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Barnoya, 2004</p> <p>Study design: Interrupted time series with concurrent comparison group</p> <p>Quality of execution: Fair</p> <p>No description of study population</p> <p>Potential bias due to lag between smoking and onset of lung cancer, and smoking cessation and decreases in lung cancer incidence (follow up only extends 10 years after the implementation of the program)</p>	<p>Location: California (CA), US</p> <p>Program scale: State</p> <p>Implementation date: 1989-91</p> <p>Intervention environment: Development of smoke-free policies Tax increases in CA</p> <p>Program funding: NR</p> <p>Program details: Mass media campaign, school programs, and direct cessation</p> <p>Comparison: Compared across 9 SEER sites; SFO, CA compared to 8 other SEER sites from geographical areas without a tobacco control program; Seer sites: States of Connecticut, Hawaii, Iowa, New Mexico, and Utah; Metropolitan areas of Atlanta, Detroit (Michigan), and San Francisco-Oakland (SFO), (CA)</p> <p>Examined cancers not caused by smoking as control</p> <p>For consumption, compared CA to U.S (not including CA)</p>	<p>Study period: 1975-1999 (CA tobacco control program 1989-1999)</p> <p>Study population: San Francisco-Oakland area for cancer, CA population for cigarette consumption</p>	<p>Age-adjusted lung cancer incidence rates [(cases/100,000/year)/year]</p> <p>Cigarette consumption over time (per capita cigarette sales)</p>			<p>Coefficient: CA: -0.981 (SE 0.122), p=0.001;</p> <p>Females: -0.775, p=0.001</p> <p>Males: -2.836, p=0.001</p> <p>Connecticut 0.148 (0.154)</p> <p>Detroit -0.485 (0.204)</p> <p>Hawaii 0.019 (0.274)</p> <p>Iowa 0.227 (0.189)</p> <p>New Mexico -0.230 (0.172)</p> <p>Seattle 0.201 (0.193)</p> <p>Utah 0.053 (0.127)</p> <p>Atlanta -0.061 (0.253)</p> <p>From 1990-1998, cigarette sales in CA were 5% to 14% lower than cigarette sales in the rest of US.</p>	<p>Only CA (San Francisco-Oakland area) showed a statistically significant decrease in age adjusted incidence rate among the 9 SEER site locations for lung cancer, which corresponds to 11,000 cases avoided state-wide in 10 years.</p>

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Chen 2003</p> <p>Study design: Interrupted time series</p> <p>Quality of execution: Fair</p> <p>Lack of program description</p> <p>Interpolations for mid-year proportions of never smokers by age for the years 1990–1993</p> <p>Difficulty in identifying the full APC model</p>	<p>Location: California (CA), US</p> <p>Program scale: State</p> <p>Implementation date: 1989-1991</p> <p>Intervention environment: Proposition 99—the Tobacco Tax and Health Promotion Act of 1988</p> <p>Program funding: NR</p> <p>Program details: NR</p> <p>Comparison: None</p>	<p>Study period: June 1990-1999</p> <p>Study population: CA youth aged 12 to 17 years from random digit- dialing and interviews</p>	<p>Initiation (preventing experimentation in adolescents) by measuring never smokers</p> <p>Never smoker: a respondent who has never tried smoking, not even a few puffs of a cigarette</p>	<p>Males, never smokers, 1990: 60%</p> <p>Females, never smokers, 1990: 66%</p>	<p>Males, Never smoker, 1999: 69%</p> <p>Females, never smokers, 1999: 70%</p>	<p>Absolute change: 9 pct pts</p> <p>Annual change: 0.87 pct pts per year</p> <p>Absolute change: 4 pct pts</p> <p>Annual change: 0.29 pct pts per year</p>	<p>Cohort effect was observed; for males born since 1980 and for females born since 1978, there were steady increase in prevalence of never smokers.</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Cowling, 2010</p> <p>Study design: Interrupted time-series with concurrent comparison</p> <p>Quality of execution: Fair</p> <p>No or limited description of study population and program</p> <p>Missing data from certain years</p> <p>Multiple limitations in data analysis</p>	<p>Location: California</p> <p>Program scale: State</p> <p>Implementation date: 1989-1991</p> <p>Intervention environment: Smoke-free policies; tax increases</p> <p>Program funding: Proposition 99 raised excise tax on cigarette pack by \$0.25</p> <p>Program details: NR; social, regulatory, and environmental strategies</p> <p>Comparison: California compared to U.S.</p>	<p>Study period: 1979-2005</p> <p>Study population: Individuals with death certificates in the NCHS, who had died of cancer (10 specific types of smoking related cancers) and were aged 35+ years</p> <p>Included types of cancer: lip/oral cavity/pharynx, esophagus, stomach, pancreas, larynx, trachea/ lung/ bronchus, cervix uteri (for women only), kidney/ renal pelvis, urinary bladder and acute myeloid leukemia</p>	Smoking-attributable cancer mortality rate per 100,000 due to the 10 cancers that are caused by smoking	<p>1979 Overall CA 126.2 Rest of US 129.4</p> <p>Males CA 193.6 Rest of US 209.1</p> <p>Females CA 58.1 Rest of US 49.8</p>	<p>2005 Overall CA 93.8 Rest of US 117.9</p> <p>Males CA 126.2 Rest of US 164.9</p> <p>Females CA 61.4 Rest of US 70.9</p>	<p>Relative % change</p> <p>-25.7%</p> <p>-8.9%</p> <p>Adjusted for US -18.4%</p> <p>-34.8%</p> <p>-21.1%</p> <p>Adjusted for US -17.3%</p> <p>+4.6%</p> <p>+42.4%</p> <p>Adjusted for US -26.5%</p>	<p>The smoking-attributable cancer mortality rate in California began to decline 7 years prior to the US trend (1984 vs 1991). The decline was more rapid in California both for the combined data and among women and men over the study period; after the California Program was implemented, the rate declined faster.</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Fichtenberg, 2000</p> <p>Study design: Interrupted time series with concurrent comparison group</p> <p>Quality of execution: Good</p> <p>No population description; limited description of program</p>	<p>Location: California</p> <p>Program scale: State</p> <p>Implementation date: 89-91</p> <p>Intervention environment: Smoke-free policies; tax increases</p> <p>Program funding: Through excise tax on cigarettes</p> <p>Program details: Community programs promoting policies to foster a smoke-free society; aggressive media campaign</p> <p>Comparison: California compared to U.S.</p>	<p>Study period: 1980-1997</p> <p>Study population: California residents</p>	<p>Per capita cigarette consumption: cigarette sales</p> <p>Mortality: age-adjusted death rates for tobacco-related cardiovascular diseases</p>			<p>Annual sales, CA vs. U.S.: -2.72 ±0.65 packs per year; p=0.001</p> <p>Mortality, CA vs. U.S.: -2.93 ±0.53 deaths per year per 100,000 population per year; p<0.001</p>	<p>Per capita cigarette consumption and heart disease mortality showed larger decreases in California vs. the rest of the US following implementation of the California Tobacco Control Program.</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Gilpin, 2006</p> <p>Study design: Interrupted time series</p> <p>Quality of execution: Fair</p> <p>Limited program description</p> <p>Self-reported data of cigarette consumption 30-35% lower than sales data</p> <p>Definition change between smokers in 1990 and 1996/2002. (May captures more smokers who admit to some-day smoking)</p> <p>Continue on next page</p>	<p>Location: CA, USA</p> <p>Program scale: State</p> <p>Implementation date: 1989-1991</p> <p>Intervention environment: Smoking ban in workplaces since 1995</p> <p>Program funding: NR</p> <p>Program details: Goal to discourage youth smoking initiation, encourage adult smokers to quit, and protect nonsmokers from SHS</p> <p>Media messages and local effort to focus attention on issue of SHS</p> <p>Comparison: None</p>	<p>Study period: 1990, 1996, 2002 [Analysis: Period 1 (1990–1996) and Period 2 (1996–2002)]</p> <p>Study population: Residents of CA (Age 18+) selection probability higher for anyone who smoked in the previous 5 years</p>	<p>Prevalence of daily smoking: Overall</p> <p>18-24 years</p> <p>Moderate-to-heavy daily smokers: >= 15 cig/day</p> <p>Heavy smokers: >= 25 cig/day</p> <p>Daily consumption: packs per month per smoker</p> <p>Consumption: cigarette sales packs per month per person</p> <p>Cessation: % ever smokers not smoking at time of survey</p>	<p>1990: Overall: 15.9%</p> <p>YA: 13.7%</p> <p>Moderate to heavy daily: 10.3% (95%CI: +- 0.4)</p> <p>Heavy daily: 3.4%(95%CI: +-0.2)</p> <p>CA 1990: 24.5</p> <p>CA 1990: 8.2</p> <p>CA 1990: 56.8%</p>	<p>1999: Overall: 13.0%</p> <p>YA: 13.0%</p> <p>Moderate to heavy daily: 7.4%(95%CI: +-0.3)</p> <p>Heavy daily: 1.9%(95%CI: +-0.1)</p> <p>CA 2002: 16.5</p> <p>CA 2002: 4.1</p> <p>CA 2002: 59.8%</p>	<p>Absolute change: -2.9 pct pts</p> <p>Absolute change: -0.7 pp</p> <p>Absolute change: -2.9 pp; significant</p> <p>Absolute change: -1.5 pp; significant</p> <p>Relative change: -32.7%; significant</p> <p>Relative Change: -50.0%</p> <p>Absolute change: 3.0 pp; significant</p>	<p>Daily smoking in CA declined after implementation of comprehensive program from 1990 to 1999.</p> <p>Both moderate and heavy smoking declined after program was in place.</p> <p>Per capita cigarette consumption in CA showed a reduction with program exposure.</p> <p>Cigarette sales per capita consumption in CA showed a reduction with program exposure.</p> <p>Ever smokers who reported not smoking increased during implementation of the program from 1990 to 1999</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Gilpin, 2006, Continued</p>			<p>Disparities: Daily smoking prevalence among adults, stratified by race/ ethnicity</p> <p>Disparities: Daily smoking prevalence, adults stratified by education/SES</p> <p>Disparities: Daily consumption, packs per month per smoker by Education/SES</p> <p>Disparities: cessation (% quit ratio) stratified by Education/SES</p>	<p>African American, 1990: 22.9%</p> <p>Non-Hispanic White, 1990: 18.3%</p> <p>Asian/Pacific Is., 1990: 11.7%</p> <p>Hispanic, 1990: 10.8%</p> <p>Less than HS, 1990: 18.3%</p> <p>HS grad, 1990: 19.3%</p> <p>Some college, 1990: 16.6%</p> <p>College grad, 1990 : 9.6%</p> <p>No college, 1990: 24.3 packs</p> <p>Some college, 1990: 24.8 packs</p> <p>No college, 1990: 52.6%</p> <p>Some college, 1990: 62.1%</p>	<p>African American, 1999: 13.6%</p> <p>Non-Hispanic White, 1999: 15.3%</p> <p>Asian/Pacific Is., 1999: 9.2%</p> <p>Hispanic, 1999: 8.7%</p> <p>Less than HS, 1999: 14.9%</p> <p>HS grad, 1999: 17.6%</p> <p>Some college, 1999: 13.9%</p> <p>College grad, 1999: 6.4%</p> <p>No college, 1999: 17.8 packs</p> <p>Some college, 1990: 14.8 packs</p> <p>No college, 2002: 54.0%</p> <p>Some college, 2002: 65.2%</p>	<p>Absolute change: -9.3pp; significant</p> <p>Absolute change: -3.0pp; significant</p> <p>Absolute change: -2.5pp</p> <p>Absolute change: -2.1pp</p> <p>Absolute change: -3.4pp; sig.</p> <p>Absolute change: -1.7pp;</p> <p>Absolute change: -2.7pp; sig</p> <p>Absolute change: -3.2pp; sig</p> <p>Relative change: -36.5% (-6.5 packs); sig</p> <p>Relative change: -67.6% (-10 packs); sig</p> <p>Absolute change: 1.4pp</p> <p>Absolute change: 3.1pp; significant</p>	<p>All race ethnicity groups showed a drop in prevalence with the largest among the African American cohort</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Lightwood, 2013</p> <p>Study design: Panel</p> <p>Quality of execution: Fair</p>	<p>Location: CA, USA</p> <p>Program scale: State</p> <p>Implementation date: 1989-91</p> <p>Intervention environment: Increase in excise tax</p> <p>Program funding: Funded with cigarettes excise tax</p> <p>Program details: Comprehensive program designed to change social norms to reinforce non-smoking norm; indirectly influence current and potential future tobacco users by creating a social and legal climate in which tobacco becomes less desirable, acceptable, and accessible; Media: 3 themes (tobacco industry lies, nicotine is addictive; SHS kills); Promote smoke-free environments;</p> <p>Comparison: CA compared to an aggregate population from 38 states that did not have substantial state tobacco control programs or cigarette tax increases of more than \$0.50 before 2000;</p>	<p>Study period: 1985-2008 with 24 annual observations</p> <p>Study population: Smoking population in CA and control states</p>	<p>Prevalence: adult smoking prevalence</p> <p>Consumption: per capita pack sales</p>			<p>Prevalence: holding all other factors constant, additional dollar in cumulative per capita funding in CA reduced CA smoking prevalence by 0.0497 pct pts, $p < 0.01$;</p> <p>Consumption: holding all other factors constant, additional dollar in cumulative per capita funding in CA reduced CA cigarette consumption per smoker by 1.39 packs/year (SE 0.132; $P < 0.01$)</p>	<p>Reductions in prevalence, cigarette consumption per smoker and per capita healthcare expenditure attributable to the Program increased steadily beginning in FY 1992</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Marlow, 2007</p> <p>Study design: Interrupted time series with concurrent comparison</p> <p>Quality of execution: Fair</p>	<p>Location: CA</p> <p>Program scale: State</p> <p>Implementation date: 89-91</p> <p>Intervention environment: CA Tobacco Tax and Health Promotion Act of 1988 (Proposition 99), increased the state surtax on cigarettes by 25 cents per pack</p> <p>Program funding: \$2 billion has been spent in CA on tobacco control during 1989-2002, or roughly \$62 per capita during this period. Total spending on media campaigns was \$377,570,000 during 1989- 2002. Real per capita spending on media expenditures averaged \$0.39 during 1975-2003, with a range of \$0.00-1.41. Real total tobacco-control spending per capita averaged \$2.29 1975-2002.</p> <p>Real total tobacco-control spending per capita averaged \$4.59, and real media campaign spending per capita averaged \$0.79 for 1989-2002</p> <p>Program details: NR</p> <p>Comparison: Time series within CA and outside CA (US)</p>	<p>Study period: Media 1989-2003, Overall 1975-2002 Expenditures 1989-2002</p> <p>Study population: Smokers in CA (who purchased cigarettes)</p>	<p>Consumption (per capita cigarette consumption): Cigarette sales in association with per capita tobacco control spending</p>			<p>Sales gap between the US and California estimated to increase by 0.11 to 0.18 cigarette packs per capita (~2 to 4 cigarettes per capita) for each \$1 increase in per capita tobacco-control spending (only if price and smoking bans included in the model)</p>	<p>Tobacco-control spending exerts a statistically significant influence on the gap between consumption in the United States and California only in equations that include cigarette price and smoking bans</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Messer, 2007</p> <p>Study design: Time series with concurrent comparison groups</p> <p>Quality of execution: Good</p> <p>No description of the study population</p>	<p>Location: CA, US</p> <p>Program scale: State</p> <p>Implementation date: 89-91</p> <p>Intervention environment: Tobacco excise tax; Statewide ban on smoking in workplace in 1994/5</p> <p>Program funding: tobacco excise tax increase in 1989 to support the program; during 1990s, \$3.67 per person per year</p> <p>Program details: Community programs for secondhand smoke exposure; media campaign; smoking cessation services; school and community initiatives against smoking</p> <p>Comparison: CA; NY/NJ: excise tax similar level but no comprehensive program Tobacco growing states (TGS): KY, TN, NC, SC, VA, GA; no excise tax, no program</p>	<p>Study period: 1992-2002</p> <p>Study population: TUS-CPS surveyed nationally representative population sample every 4 months; >=15 years</p> <p>Population characteristics not reported (only NHW analyzed)</p>	<p>Cessation: continuous abstinence for over 1 year (%quit/year)</p>	<p>20-34 year olds (%quit/year) US 3.2 NY/NJ 3.7 TGS 2.8</p> <p>35-49 year olds (%quit/year) US 3.2 N/N 3.6 TGS 2.8</p> <p>50-64 year olds (%quit/year) US 4.5 N/N 4.7 TGS 4.2</p>	<p>20-34 year olds (%quit/year) CA 4.1</p> <p>35-49 year olds (%quit/year) CA 3.8</p> <p>50-64 year olds (%quit/year) CA 4.5</p>	<p>Absolute change: CA vs. US: 0.9 pct pts CA vs. NY/NJ: 0.4 pct pts CA vs TGS: 1.3 pct pts</p> <p>CA vs. US: 0.6 pct pts CA vs. NY/NJ: 0.2 pct pts CA vs TGS: 1.0 pct pts</p> <p>CA vs. US: 0 pct pts CA vs. NY/NJ: -0.2pp CA vs TGS: 0.3pp</p>	<p>US smoking cessation increased from 2.7% per year to 3.4% per year from 80s to 90s the largest increase for smokers <35 years</p> <p>CA comprehensive program increased cessation rate of 20-34 age group</p>

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<p>Author, Year: Messer, 2010</p> <p>Study design: Interrupted time-series</p> <p>Quality of execution: Good</p> <p>No description of comprehensive program; limited description of study population</p>	<p>Location: California</p> <p>Program scale: State</p> <p>Implementation date: 1989-1991</p> <p>Intervention environment: NR</p> <p>Program funding: NR</p> <p>Program details: NR; evaluation every 3 years (a population-level survey of tobacco use sponsored by the California Program)</p> <p>Comparison: Different age cohorts over time, but all within California</p>	<p>Study period: 1990-2005; survey conducted every 3-years (90, 93, 96, 99, 02, and 05)</p> <p>Study population: All adolescents from surveys, and a stratified random sample of adults that responded to extended survey; a random sample of adolescents was interviewed in 1999; analysis limited to adolescents and young adults aged 12-26, and only non-Hispanic whites; sample sizes grouped by six 3-yr birth cohorts</p> <p>Sample size: 34,342</p>	<p>Prevalence: % ever smokers</p> <p>Initiation: Odds of becoming an ever smoker from ages 12-14 years to 15-17 years</p>	<p>Females: 12-14yrs old in 1990: 17.4% (95% CI: 13.8%, 20.9%)</p> <p>15-17yrs old in 1993: 44% (95%CI: 41%, 48%)</p> <p>Males: 12-14yrs old in 1990: 13.5% (95% CI: 10.6%, 16.5%)</p> <p>15-17yrs old in 1993: 45% (95%CI: 40%, 50%)</p> <p>Females: Adolescents born before 1985</p> <p>Males: Adolescents born before 1982</p>	<p>12-14yrs old in 2005: 1.4% (95% CI: 2.7%, 0.2%)</p> <p>15-17yrs old in 2005: 10% (95%CI: 6.7%, 14%)</p> <p>12-14yrs old in 2005: 2.8% (95% CI: 5.2%, 0.4%)</p> <p>15-17yrs old in 2005: 11% (95%CI: 6.7%, 15%)</p> <p>Adolescents females born after 1985</p> <p>Adolescents born after 1982</p>	<p>Absolute change: -16 pct pts</p> <p>Absolute change: -34 pct pts</p> <p>Absolute change: -10.7 pct pts</p> <p>Absolute change: -34 pct pts</p> <p>OR: 0.74; 95%CI: 0.53, 0.97</p> <p>OR: 0.70; 95%CI: 0.57, 0.85</p>	<p>Smoking initiation was stable among those who were 9yrs or older in 1990, start of CA program; initiation trajectories changed with children in 82/84 birth cohort, who were 6 to 8yrs at start of CA program;</p> <p>Experimentation at age 12-14 declined significantly with each subsequent birth cohort;</p> <p>Odds of becoming an ever smoker from age 12 to 14 years to age 15 to 17 years declined for both female and male adolescents;</p> <p>Odds of new smoking experimentation from age 15 to 17 years to age 18 to 20 years were stable across the birth cohorts studied</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Miller, 2010</p> <p>Study design: Time-series with concurrent comparison group</p> <p>Quality of execution: Fair</p> <p>No description of study population</p> <p>No raw data provided; all data points estimated from graphs</p>	<p>Location: California</p> <p>Program scale: State</p> <p>Implementation date: 1989-91</p> <p>Intervention environment: Tobacco tax increase in 1989 of \$0.25 Smoke-free policies</p> <p>Program funding: Funded by part of funds from tax increase on cigarettes; \$100 million annual budget in the beginning; spent ~\$1.2bil in first decade</p> <p>Program details: Changing social norms to make tobacco use less desirable, less acceptable and less accessible</p> <p>State-wide media campaign; community-based interventions; school based prevention programs</p> <p>Comparison: CA compared to rest of US (ROC);</p>	<p>Study period: 1992/3, 1995/6, 1998/9, and 2001/2</p> <p>Study population: Male respondents to surveys from 1981 to 1999; Tobacco Use Supplement to the Current Population Survey (TUS-CPS); California Tobacco Survey (CTS);</p>	<p>Smoking cessation rates: weighted number of long-time quitters (at least 6m abstinence) who quit smoking in a given year divided by weighted number of respondents who were current smokers in the beginning of that year</p> <p>Smoking initiation rates: weighted number of respondents who started smoking in a given year divided by weighted number of non-smokers in the beginning of that year</p>	<p>1989 20-34 CA: 2.5% ROC: 2.0%</p> <p>35-44 CA: 3.5% ROC: 2.5%</p> <p>45-54 CA: 3.5% ROC: 3.5%</p> <p>55+ CA: 5.8% ROC: 5.0%</p> <p>1989 11-15 CA: 1.9% ROC: 2.2%</p> <p>16-18 CA: 4.5% ROC: 6.5%</p> <p>19-22 CA: 2.2% ROC: 3.0%</p>	<p>1999 6.0% 3.7%</p> <p>3.1% 2.8%</p> <p>4.1% 3.1%</p> <p>5.8% 4.4%</p> <p>1999 1.3% 2.1%</p> <p>4.0% 5.8%</p> <p>1.1% 1.9%</p>	<p>Absolute change: 3.5pp 1.7pp CA vs. ROC: 1.8</p> <p>-0.4pp 0.3pp CA vs. ROC: -0.7</p> <p>0.6pp -0.4pp CA vs. ROC: 1.0</p> <p>Opp -0.6pp CA vs. ROC: 0.6</p> <p>-0.6pp -0.1pp CA vs. ROC: -0.5</p> <p>-0.5pp -0.7pp CA vs. ROC: 0.2</p> <p>-1.1pp -1.1pp CA vs. ROC: 0.0</p>	<p>The young adult group (20-34) had the highest increase in cessation rates and was most responsive to the California Program in cessation, especially after 1995;</p> <p>Initiation rates for males in CA were lower than those for other states, especially for the 16-18 group</p>

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Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Pierce, 1998</p> <p>Study design: Interrupted time series with concurrent comparison group</p> <p>Quality of execution: Fair</p> <p>No description of study population</p> <p>All survey results combined to produce one estimate even though surveys differ in sample sizes, sampling methods</p>	<p>Location: California</p> <p>Program scale: State</p> <p>Implementation date: 89-91</p> <p>Intervention environment: Tobacco tax increase, smoke-free policy</p> <p>Program funding: From tax increase; funds through Health Education Account; variation over time, but from fiscal year 1989-90 to fiscal year 92-93, average annual expenditure was \$85.5mil, or \$3.35 per capita per year (25.5mil people in CA >12); beginning fiscal year 93-4, annual average funding \$53.0mil, or \$2.08 per capita</p> <p>Program details: 1989 ballot initiative specified: funding for mass media anti-tobacco campaigns, local health agencies to provide technical support and monitor adherence to antismoking laws, community-based interventions selected by a competitive grants process, and enhancement of school-based prevention programs, and program evaluation</p> <p>Comparison: CA compared to the rest of the US (ROC)</p>	<p>Study period: Cigarette consumption: data from Feb 83 to Mar 97;</p> <p>Smoking prevalence data from 1978-1997</p> <p>Study population: Households interviewed by various surveys; interviewed adults, ages 18+; consumption calculated from Tobacco Institute reports</p>	<p>Smoking prevalence: adult ≥ 100 cigarettes lifetime, and currently smoking</p> <p>Annual change (pct. pts.) in adult smoking prevalence</p> <p>Per capita cigarette sales: average #of packs sold per adult per month</p> <p>Annual change in per capita pack sales; packs per capita per year</p>	<p>Prevalence 1989 CA: 23.3% ROC: 26.2%</p> <p>Before 1989: ROC: -0.77</p> <p>1989-1993: ROC: -0.57</p> <p>1994-1996: ROC: -0.28</p> <p>Pre-1989 CA: 9.7 ROC: 12.5</p> <p>Before 1989 ROC: -0.36</p> <p>1989-1993 ROC: -0.42</p> <p>1994-1996 ROC: 0.04</p>	<p>1996 18.0% 22.4%</p> <p>Before 1989: CA: -0.74</p> <p>1989-1993 CA: -1.06</p> <p>1994-1996: CA: 0.01 p<0.001</p> <p>1994-1996 6.0 10.5</p> <p>Before 1989 CA: -0.42</p> <p>1989-1993 CA: -0.64</p> <p>1994-1996 CA: -0.17</p>	<p>Absolute change: -5.3 pp -3.8 pp DOD -1.5 pp</p> <p>Absolute diff: Before 1989: 0.03 pct pts; NS</p> <p>1989-1993 -0.49 pct pts; p<0.05</p> <p>1994-1996 0.29 pct pts; p<0.001</p> <p>Rel. % change -22.4% -42.9% CA vs. US: -26.4%</p> <p>Absolute diff: -0.06; p=0.01</p> <p>-0.22; p=0.001</p> <p>-0.21; p=0.001</p>	<p>Start of CA program was associated with 50% more rapid rate of decline in per capita consumption and 36% increase in rate of decline in prevalence; both unique to CA</p> <p>As program went on, decline in consumption slowed significantly, while decline in smoking prevalence halted; from '94 to '96, CA smokers might be reducing the amount they smoke rather than quitting</p>

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Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Pierce, 2005</p> <p>Study design: Interrupted time series with concurrent comparison group</p> <p>Quality of execution: Fair</p> <p>No description of population</p> <p>Completion rate below 80% (~60% or higher; lowest one from 2002 at 58.8%)</p>	<p>Location: California</p> <p>Program scale: State</p> <p>Implementation date: 89-91</p> <p>Intervention environment: Tax increases, smoke-free policies, minors' access policies</p> <p>Program funding: Part of a \$0.25 increase in cigarette excise tax in 89 used to fund program; from 1990-2002, average annual per capita spending: just under \$3</p> <p>Program details: Program focus on: reduce SHS, reduce minors' access, promote cessation, counter tobacco industry marketing strategy; media program; community program; school program; evaluation</p> <p>Comparison: For young adults, CA compared to rest of the country; for other outcomes, time series data</p>	<p>Study period: CTS: 1990-2002 (90, 92, every 3 years from 93 to 02); CPS-TUS: Sept/Jun/May in 92/3, 95/6, and 98/9, and Jun/Sept/Jun in 01/2</p> <p>Study population: CTS: interviewed 12-24 year olds CPS-TUS: continuous survey with 56,000 households per month; national, non-institutionalized civilian population, ages 15 and older; for this study, only considered self-reported smoking status</p>	<p>Adolescent smoking prevalence: current smokers, ages 12-17; smoked in past 30 days</p> <p>Young adult smoking prevalence: current smokers, ages 18-24; smoked at least 100 cigarettes, and smoking every day or some days now</p>	<p>1990 9.0%</p> <p>1992/1993 California 17.9% Rest of US 22.4%</p>	<p>2002 5.0%</p> <p>2001/2001 California 15.4% Rest of US 22.5%</p>	<p>Absolute change: -4.0 pp</p> <p>Absolute change: -2.5 pp</p> <p>0.1 pp</p> <p>DOD: -2.6 pp</p>	<p>CA adolescents and young adults showed decreased in smoking prevalence following the implementation of the California Program; smoking prevalence among California young adults declined more than their counterparts in the rest of the US</p>

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Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Pierce, 2010</p> <p>Study design: Interrupted time-series with concurrent comparison group</p> <p>Quality of execution: Fair</p> <p>No description of study population</p> <p>Low participation rate for BRFSS survey (35%)</p>	<p>Location: California</p> <p>Program scale: State</p> <p>Implementation date: 1989-91</p> <p>Intervention environment: Local and state smoke-free policies; excise tax increase; implemented electronically enhanced cigarette tax stamp to facilitate monitoring and reduce tax evasion; licensing of tobacco retailers throughout the state and increased the number of inspectors</p> <p>Program funding: NR</p> <p>Program details: NR</p> <p>Comparison: State program compared to national trend</p>	<p>Study period: 1960-2002</p> <p>Study population: Prevalence/ consumption (cigarette sales): Adult population (18+); Mortality: Adult population (35+)</p> <p>1965- 2004: 24 National Health Interview Surveys with annual household sample sizes of 35,000 to 45,000; from 1992-2007: 6 Tobacco Use Supplements to the Current Population Survey with monthly sample sizes of ~70,000 to 80,000</p> <p>From 1990- 2008: 19 Behavioral Risk Factor Surveillance System surveys</p>	<p>Per capita taxed cigarette sales; differences between sales trend lines for CA and US</p> <p>Mortality rates due to lung cancer: age adjusted deaths per 100,000 persons per year</p>	<p>1970s CA 76.3 Rest of US 71.5</p> <p>1987, CA, peak: 108.6</p> <p>1993, rest of US, peak: 116.8</p>	<p>From 1970 to 1988, change in sales in CA faster than change in sales in US: gap grew by 1.15 pct pts per year;</p> <p>From 1989-2002, change in sales in CA declined even faster than change in sales in US: gap grew by 2.06 pct pts per year;</p> <p>From 2002-2008: slight decrease in this gap</p> <p>2007</p> <p>77.1</p> <p>101.7</p> <p>2007</p> <p>77.1</p> <p>2007</p> <p>101.7</p>	<p>Consumption gaps between CA and rest of US grew faster after implementation of comprehensive program;</p> <p>Daily consumption (from surveys) and cigarette sales data (from sales tax) closely match each other</p> <p>Rel. % change: 1.0% 42.2% DOD: -29.0% -28.5% -12.9% DOD: -17.8%</p>	<p>Consumption for both CA and U.S. showed substantial decreases over the study period; decline in CA was faster than rest of U.S. for the first 14 years after program implementation, consumption in CA declined faster than the rest of the U.S.; this gap was narrowed slightly over the next 7 years</p> <p>Lung cancer mortality is trending lower in CA and this trend is expected to continue for the next decade.</p>

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<p>Author, Year: Polednak, 2009</p> <p>Study design: Interrupted time-series with concurrent comparison group</p> <p>Quality of execution: Fair</p> <p>No description of study population; limited description of comprehensive program</p> <p>Sampling frame not well described</p>	<p>Location: California</p> <p>Program scale: State</p> <p>Implementation date: -9189</p> <p>Intervention environment: Several increases in tax; last reported tax increase in 1999</p> <p>Program funding: Average funding of \$3.67 per capita per year</p> <p>Program details: NR</p> <p>Comparison: California compared to: rest of U.S. (minus CA only), rest of U.S. (minus CA, NY, NJ, and 6 tobacco-growing states), New York and New Jersey (combined; high cigarette excise taxes but no comprehensive program), and tobacco growing states (TGS: GA, KY, NC, SC, TN, VA; low cigarette taxes and no state tobacco-control program)</p>	<p>Study period: 1990-2004</p> <p>Study population: Age 20+ mortality rates due to tobacco-related cardiovascular diseases or lung-bronchus cancer</p>	<p>Age-standardized cardiovascular deaths per 100,000 persons per year</p> <p>Age-standardized lung-bronchus cancer deaths per 100,000 persons per year</p>	<p>1990: 20-44yrs CA: 18.2 Not CA: 22.3 NY-NJ: 22.1 South: 27.5</p> <p>45-64: CA: 217.4 Not CA: 251.2 NY-NJ: 247.8 South: 289.7</p> <p>45-64: CA: 2566.9 Not CA: 2605.6 NY-NJ: 2791.7 South: 2747.1</p> <p>20-44yrs CA: 2.6 Not CA: 3.5 NY-NJ: 3.9 South: 3.3</p> <p>1990, 45-64: CA: 77.2 Not CA: 91.5 NY-NJ: 82.7 South: 107.1</p> <p>1990, 45-64: CA: 286.5 Not CA: 299.1 NY-NJ: 286.3 South: 320.1</p>	<p>2004: 20-44yrs CA: 14.8 Not CA: 20.7 NY-NJ: 14.6 South: 26.1</p> <p>45-64: CA: 143.3 Not CA: 169.5 NY-NJ: 143.1 South: 201</p> <p>45-64: CA: 1738.5 Not CA: 1788.6 NY-NJ: 1870.5 South: 1892</p> <p>20-44yrs CA: 1.4 Not CA: 2.7 NY-NJ: 2.3 South: 2.5</p> <p>2004, 45-64: CA: 41.4 Not CA: 62.8 NY-NJ: 54.1 South: 74.9</p> <p>2004, 45-64: CA: 258.9 Not CA: 313.9 NY-NJ: 268.3 South: 348.6</p>	<p>Rel. % change: -18.7% -7.2% -33.9% -5.1%</p> <p>Rel. % change: -34.1% -32.5% -42.3% -30.6%</p> <p>Rel. % change: -32.3% -31.4% -33.0% -31.1%</p> <p>Rel. % change: -46.2% -22.9% -41.0% -24.2%</p> <p>Rel. % change: -46.4% -31.4% -34.6% -30.1%</p> <p>Rel. % change: -9.6% 4.9% -6.3% 8.9%</p>	<p>In general, states with stronger tobacco control efforts showed larger reductions in cardiovascular and lung cancer mortality.</p>

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<p>Author, Year: Rohrbach, 2002</p> <p>Study design: Time series, interval</p> <p>Quality of execution: Fair</p> <p>Exposure based self-report</p> <p>Study design makes interpreting results difficult</p>	<p>Location: CA, US</p> <p>Program scale: State</p> <p>Implementation date: 89-91</p> <p>Intervention environment: Tax, Smoke free policies, minors' access laws</p> <p>Program funding: From increased tax on tobacco products, Proposition 99</p> <p>Program details: Statewide media campaign; Community program; School based programs; evaluation</p> <p>Comparison: regression analysis connected exposure to program with smoking prevalence</p>	<p>Study period: 1996-1998</p> <p>Study population: 18+ adults in California, who spoke English or Spanish and live in the selected counties for 6+ months,</p> <p>For youth population selected 10th graders from selected schools and classes</p>	<p>Adult smoking prevalence in association with program exposure;</p> <p>Smoke-free households: home smoking bans in association with program exposure;</p> <p>Program exposure: self-reported recall of exposure to various program components, aggregated at the county level for analysis</p>			<p>Adult smoking prevalence: Lowest exposure: 2.53 pct pts Moderate exposure: 0.23 pct pts Highest exposure: -0.95 pct pts</p> <p>Smoke free homes: Lowest exposure: 2.01 pct pts Moderate exposure: 2.89 pct pts Highest exposure: 4.14 pct pts</p>	<p>Linear regression models showed that self-reported multicomponent exposure was:</p> <ol style="list-style-type: none"> 1. Significantly associated with reductions in prevalence of adult smoking ($p < 0.05$); 2. Significantly associated with increases in smoke-free homes ($p < 0.05$) 3. Not associated with reductions in smoking prevalence among 10th graders ($p < 0.05$);

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Siegel, 2000</p> <p>Study design: Interrupted time series with concurrent comparison</p> <p>Quality of execution: Good</p> <p>No description of program or population</p>	<p>Location: CA, USA</p> <p>Program scale: State</p> <p>Implementation date: 89-91</p> <p>Intervention environment: Increase in state cigarette excise tax (Proposition 99)</p> <p>Program funding: NR</p> <p>Program details: NR</p> <p>Comparison: Compared to national data excluding CA</p>	<p>Study period: 1978–1980, 1983, 1985, 1987, 1988, and 1990–1994</p> <p>Study population: Adults (18+ years old) of CA, selected from the National health interview Survey and the BRFSS</p>	<p>Smoking prevalence, 18+, annual change</p> <p>Cessation, 18+, annual change (CA vs US)</p>	<p>1978-1985: US: -0.5 pct pts (-0.67, -0.33)</p> <p>1985-1990: US: -0.93* (-1.13, -0.73)</p> <p>1990-1994: US: -0.05* (-0.34, 0.24)</p> <p>1978-1985: US: 0.73 pct pts (0.22, 1.24)</p> <p>1985-1990: US: 1.04 pct pts (0.62, 1.46)</p> <p>1990-1994: US: 0.15 (-0.47, 0.7)</p> <p>*significant difference (p<0.05) between estimated rate of change for that period and that for the previous period</p>	<p>1978-1985: CA: -0.6 pct pts (-0.79, -0.40)</p> <p>1985-1990: CA: -1.22* (-1.51, -0.93)</p> <p>1990-1994: CA: -0.39* (-0.76, -0.03)</p> <p>1978-1985: CA: 0.73 pct pts (0.22, 1.24)</p> <p>1985-1990: CA: 1.36 pct pts (0.74, 1.97)</p> <p>1990-1994: CA: 0.18 pct pts (-0.8, 1.15)</p> <p>*significant difference (p<0.05) between estimated rate of change for that period and that for the previous period</p>	<p>1978-1985: CA vs. US: -0.1 pct pts per year</p> <p>1985-1990: CA vs. US: -0.29 pct pts per year</p> <p>1990-1994: CA vs. US: -0.34 pct pts per year</p> <p>1978-1985: CA vs. US: 0 pct pts per year</p> <p>1985-1990: CA vs. US: 0.32 pct pts per year</p> <p>1990-1994: CA vs. US: 0.03 pct pts per year</p>	<p>Smoking prevalence declined at a slower pace from 90 to 94 compared to earlier years, in both CA and U.S., but decline was greater in CA than in U.S.</p>

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<p>Author, Year: Trinidad, 2007</p> <p>Study design: Time series with concurrent comparison group, interval</p> <p>Quality of execution: Good</p> <p>No description of program</p>	<p>Location: California</p> <p>Program scale: State</p> <p>Implementation date: 89-91</p> <p>Intervention environment: Tobacco tax, smoke-free policies</p> <p>Program funding: \$3 per capita in the 90s</p> <p>Program details: NR</p> <p>Comparison: CA; NY + NJ: combined population similar to CA (neither with comprehensive program in 90s, but have similar cig. taxes); Tobacco growing states (TGS): 6 states with >\$100 mil/year in tobacco-related agriculture activities; KY, TN, NC, SC, VA, GA; together with population slightly larger than either CA or NYC+NJ</p>	<p>Study period: Months of Sept, Jan, May in 1992-3, 95-6, 98-9; and Jun, Nov, and Feb of 01-2</p> <p>Study population: For TUS-CPS, continuous survey of over 56,000 households per month; civilian non-institutionalized US population, age ≥15</p> <p>For this study, data from in-person interviews from all respondents 20-64 years; identified as either African-American (AA) or non-Hispanic White (NHW)</p> <p>AA population increased slightly over the years, while NHW population decreased slightly over the evaluation years</p> <p>Significantly fewer male respondents among AA population in each year</p>	<p>Prevalence: daily and occasional smokers</p>	<p>1992/1993</p> <p>AA CA: 28.4% NY/NJ: 6.3% TGS: 29.7%</p> <p>NHW CA: 23.7% NY/NJ: 25.4% TGS: 31.0%</p>	<p>2001/2002</p> <p>20.7% 21.1% 21.9%</p> <p>18.7% 23.2% 28.5%</p>	<p>Absolute diff. -7.7 pp -5.2 pp -7.8 pp</p> <p>-5.0 pp -2.2 pp -2.5 pp</p>	<p>Sustained and uniform decline in adjusted odds of African American adult daily smoking, by 3% per year in the decade from 1992-2002, across state groups;</p> <p>In each state group, rates of daily smoking among African Americans are substantially less than those for non-Hispanic whites of similar age, education and income status;</p> <p>For African Americans, peak daily smoking age moved from 35-40 to 45-50, without significant change in occasional smokers; indicating decreasing initiation among African Americans.</p>

MA studies

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Biener, 2000</p> <p>Study design: Interrupted time series with concurrent comparison group</p> <p>Quality of execution: Fair</p> <p>No description of study population</p> <p>Lack of description of sampling methods; All data from state-wide or nation-wide regular repeated population surveys</p>	<p>Location: MA, US</p> <p>Program scale: State</p> <p>Implementation date: 93-94</p> <p>Intervention environment: 1992, 25 cents per pack of cigarettes to fund the tobacco control program; implemented in 1993</p> <p>Program funding: Program funding stream: MA appropriated on average \$39m a year to fund the program</p> <p>Funding levels for overall program: ~\$6.50 per capita</p> <p>Program details: Media campaign, use TV, radio, print, and other channels to inform public Promotion of local policies - boards of health and others to help initiate, develop, pass, and enforce</p> <p>Comparison: Prevalence: MA vs. pooled data of 48 other states and D.C., excluding CA (MA vs. ROC) Consumption: MA vs. 48 states (excluding MA and CA) (MA vs. ROC)</p>	<p>Study period: 1989 to 1999: 1989-1998 for BRFSS survey, 1993/4– 1999 for Massachusetts tobacco survey (MTS)</p> <p>Study population: MTS: monthly data aggregated for annual estimates, Adults</p> <p>BRFSS: Random sample of adults from state</p>	<p>Prevalence: adult current smokers(\geq 100 cigarettes in lifetime and currently smoked every day or some days)</p> <p>Consumption: Annual change in packs per adult</p>	<p>Annual change U.S., no CA 1992-1999, 0.03%, P= <0.001</p> <p>Relative change, 88-92: ROC: -3 to -4%</p> <p>Relative change, 92, right after tax in MA: ROC: -4%</p> <p>Relative change, 93 onward: ROC: <1%</p>	<p>Annual change MA 1992-1999, -0.43%, P= <0.001</p> <p>Relative change, 1988 to 92: MA: -3 to -4%</p> <p>Relative change, 92, MA: -12%</p> <p>Relative change, 93 onward, MA: -4%</p>	<p>Absolute change, MA vs. U.S., 1992-1999, -0.46 pct pts per year</p>	<p>Smoking prevalence among adults in MA declined significantly faster than other states with no comparable tobacco control program in effect.</p> <p>Prior to tobacco control program in MA, similar rates of decline in MA and the rest of US</p> <p>With the program, decline in MA continued at a similar rate, but stopped in the rest of US</p>

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<p>Author, Year: CDC, 1996</p> <p>Study design: Interrupted time series with concurrent comparison group</p> <p>Quality of execution: Fair</p> <p>No population description</p> <p>Last year of data was estimated based on doubling the half-year value</p>	<p>Location: MA, US</p> <p>Program scale: State</p> <p>Implementation date: Ballot petition approved Nov. 1992; Tax implemented Jan. 1, 1993; began media campaign in October, 1993; funding for local, school, and youth programs in early 1994</p> <p>Intervention environment: Smoke-free policies; also local level funding to promote smoke-free environments</p> <p>Taxes: 26 to 51 cents per pack (Jan. 1993), dropped 10 months later due to discounting by tobacco manufacturer</p> <p>Program funding: 116 million total through June 1996 (43 million for mass media), 116 million total through June 1996 (43 million for mass media)</p> <p>Program details: Media campaign starting October 1993</p> <p>Local and school programs: reduce public tobacco smoke exposure, restrict youth cigarette access, health education programs, and other cessation services</p> <p>Comparison: MA vs. CA or rest of country (ROC)</p>	<p>Study period: 1990-96</p> <p>Study population: Massachusetts (and other state/ U.S.) residents aged 18+ For BRFSS: had to have a telephone and be part of the U.S. non-institutionalized population</p>	<p>Prevalence: current adult smokers, \geq 100 cigarettes in lifetime and smokes now</p> <p>Consumption, pack sales: purchased per adult</p>	<p>1990-1992, MA: 23.5% US: 24.1%</p> <p>1990-1992, relative change in consumption: MA: -6.4% ROC: -5.8%</p>	<p>1993-1995, MA: 21.3% US: 23.4%</p> <p>1992-1996, relative changes in consumption: MA: -19.7% ROC: -6.1%</p>	<p>93-95 vs. 90-2: MA: -2.2 pct pts US: -0.7 pct pts</p> <p>MA vs. ROC DOD: -1.5pp</p> <p>93-95 vs. 90-2: MA: -14.2% ROC: -0.3%</p> <p>MA vs. ROC: -13.9%</p>	<p>Current MA adult smokers showed a decline in prevalence compared to the US between 1990-1995</p> <p>From 1992-1996, cigarette sales in MA were lower than cigarette sales in the rest of US.</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Kabir, 2007</p> <p>Study design: Interrupted time-series</p> <p>Quality of execution: Fair</p> <p>No description of population</p> <p>Minor changes in diagnosis criteria over study period</p> <p>Discrepancies between data reported in tables and in text</p>	<p>Location: Massachusetts</p> <p>Program scale: State</p> <p>Implementation date: 93-94</p> <p>Intervention environment: Smoke-free policies; tax increases</p> <p>Program funding: Program funded from excise tax on cigarettes; funding severely reduced since 2002</p> <p>Program details: Media campaigns; advocacy from health organizations; increased availability of cessation and counseling services</p> <p>Comparison: Before-after</p>	<p>Study period: 1931 to 2003</p> <p>Study population: Lung cancer deaths in MA</p>	<p>Lung cancer deaths per 100,000 persons</p>	<p>Overall: 1992: 60.88 1993: 57.83</p> <p>Male: 1992: 87.82 1993: 77.74</p> <p>Female: 1992: 43.95 1993: 45.16</p>	<p>Overall: 2003: 54.37</p> <p>Male: 2003: 70.12</p> <p>Female: 2003: 46.41</p>	<p>Relative change: 92-93: -5% 93-03: -6% 93-03 vs. 92-93: -1.0%</p> <p>Relative change: 92-93: -11.5% 93-03: -9.8% 93-03 vs. 92-93: 1.7%</p> <p>Relative change: 92-93: 2.8% 93-03: 2.8% 93-03 vs. 92-93: 0%</p>	<p>Observed decrease in overall lung cancer mortality rates, but number is mostly driven by decrease among males; apparent increase in the female lung cancer rate.</p>
<p>Author, Year: Kabir, 2008</p> <p>Study design: Simple Time Series</p> <p>Quality of execution: Good</p> <p>No population or program description</p>	<p>Location: Massachusetts</p> <p>Program scale: State</p> <p>Implementation date: 93-94</p> <p>Intervention environment: Cigarette tax</p> <p>Program funding: Funding through cigarette tax</p> <p>Program details: NR</p> <p>Comparison: No comparison</p>	<p>Study period: 1993 to 2003</p> <p>Study population: MA Regular daily smokers, 25-84 years old (From MA BRFSS database, and SEER database)</p>	<p>Smoking prevalence</p> <p>Cardiovascular deaths per 100,000 persons</p>	<p>1993: 20.5%</p> <p>1993: 199</p>	<p>2003: 14.5%</p> <p>2003: 137</p>	<p>Absolute Change: -6 pct pts</p> <p>Relative Change: -31.2%</p>	<p>Observed decrease in smoking prevalence and CHD mortality rate over the 10 years since the implementation of the comprehensive tobacco control program in MA</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Marlow, 2012</p> <p>Study design: Interrupted time series</p> <p>Quality of execution: Fair</p>	<p>Location: Massachusetts</p> <p>Program scale: State</p> <p>Implementation date: 93-94</p> <p>Intervention environment: Smoke-free policies; by 2004, state-wide ban on smoking in workplaces, restaurants, and bars; Tax increase of \$0.25 in 1992;</p> <p>Program funding: From tax increase in 1992; Slightly over \$400 million spent in MA on tobacco control from 1994 to 2005; roughly \$5.50 per capita on average during this period; Funding dropped substantially during 2003 to 2005 to an average of \$0.61;</p> <p>Program details: NR</p> <p>Comparison: Time series within MA;</p>	<p>Study period: 1980 to 2005; related to spending, from 1994 to 2005;</p> <p>Study population: Smokers in MA and their purchase of cigarettes</p>	<p>Cigarette sales in association with per capita tobacco control spending in MA;</p> <p>Spending as current, lagged, or cumulative with 5% discount;</p>			<p>Limited or no effect found for tobacco control spending on the decline in cigarette sales in MA, with current or cumulative spending</p>	<p>The evidence shows that taxed cigarette sales declined in MA due to price increases, changes in income, and smuggling; minimum impact due to tobacco control spending or smoking bans;</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Rigotti, 2002</p> <p>Study design: Cross-sectional</p> <p>Quality of execution: Fair</p> <p>Students who attended high school outside MA but attended colleges in MA were much fewer in number (15% of total); these students may not be representative of general student population outside MA; possible selection bias</p> <p>Cross-sectional design makes interpretation of results difficult; can only infer association but no correlation</p>	<p>Location: MA, US</p> <p>Program scale: State</p> <p>Implementation date: 93-94</p> <p>Intervention environment: Tax increase in 1992</p> <p>Program funding: Funded by tobacco excise tax; approximately \$39 million per year</p> <p>Program details: MTCP's goals are to reduce tobacco uptake by youths, increase cessation among adults, and protect non-smokers from secondhand smoke</p> <p>Activities relevant to youth: Aggressive statewide mass media counter-advertising campaign; support to local health departments to enact and enforce youth access; clean indoor air regulations; programs such as school based tobacco education and outreach to at-risk youths</p> <p>Comparison: Students who attend high school in MA compared to students who attended high school outside MA in their tobacco use</p>	<p>Study period: First questionnaire sent during first 2 weeks of April, 1999; 2nd questionnaire sent out during first 2 weeks of May, 1999 to non-responders</p> <p>Study population: 4-year public colleges and universities in MA; Colleges that provided on-campus housing for at least 20% of undergrads; 11 institutions met criteria, and agreed to participate:</p> <p>Randomly selected sample of 225 full time students enrolled at participating institutions;</p> <p>Questionnaire sent: 2475 students Response rate: 56% 1256 questionnaires returned</p> <p>For analysis comparing students attended high school in or outside MA: respondents 17-23 years of age in 1999; n=1060</p>	<p>Prevalence of cigarette use within past 30 days</p> <p>Prevalence of cigar use within past 30 days</p> <p>Prevalence of smokeless tobacco use within past 30 days</p>	<p>Students attended high school outside MA: 38.3%</p> <p>5.6%</p> <p>4.9%</p>	<p>Students attended high school inside MA: 27.5%</p> <p>6.3%</p> <p>2.5%</p>	<p>Absolute difference:</p> <p>-10.7 pct pts; p=0.006</p> <p>Adjusted OR: 0.67 (0.46, 0.97)</p> <p>Adjusted for age, sex, race, parental education, and students' college residence</p> <p>0.7 pct pts; p=0.732</p> <p>-2.4 pct pts; p=0.079</p>	<p>Living in Massachusetts during high school, a marker of exposure to the MA Tobacco Control Program, was associated with a lower prevalence of tobacco use among Massachusetts public college students; however, there was no difference in current cigar use or smokeless tobacco use</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Soldz 2000</p> <p>Study design: Before-after</p> <p>Quality of execution: Good</p>	<p>Location: MA, US</p> <p>Program scale: State</p> <p>Implementation date: 93-94</p> <p>Intervention environment: Tax increase in 1992 of \$0.25 per pack</p> <p>Program funding: Funded through excise tax on cigarette packs</p> <p>Program details: Goal is to prevent youth from initiating smoking and to reduce their access to tobacco</p> <p>Community efforts: enforcement of youth access provisions; community-based tobacco prevention programs</p> <p>School efforts: youth based initiatives to prevent smoking</p> <p>Media efforts: statewide media campaigns to reduce smoking and smokeless tobacco use</p> <p>Comparison: No comparison</p>	<p>Study period: 1993 and 1996</p> <p>Study population: 7th to 12th graders</p> <p>1984-90: students from a random sample of MA public school classrooms, stratified by county and grade</p> <p>1993 and 1996: supplemented by sample of students in public school classrooms in 5 urban areas with strong non-white student representation</p>	<p>Prevalence: Current smokers, middle school students (7th-8th graders) smoked in past 30 days</p> <p>Prevalence of current smoking among middle school students, stratified by race/ethnicity</p> <p>Prevalence: Current smokers high schools (9th-12th graders): smoked within last 30 days</p>	<p>1993 Overall: 22.5%±1.9%</p> <p>Male: 25.6%±2.4%</p> <p>Female: 19.7%±2.4%</p> <p>Non-Hispanic black: 22.5%±4.5%</p> <p>Non-Hispanic white: 23.4%±2.1%</p> <p>Hispanic: 27.2%±4.0%</p> <p>Overall: 33.6%±1.7%</p> <p>Male: 31.0%±1.9%</p> <p>Female: 35.8%±2.2%</p> <p>Non-Hispanic black: 21.7%±3.0%</p> <p>Non-Hispanic white: 36.4%±1.8%</p> <p>Hispanic: 25.5%±3.9%</p>	<p>1996 Overall: 21%±2.1%</p> <p>Male: 19.1%±2.2%</p> <p>Female: 23.1%±2.6%</p> <p>Non-Hispanic black: 15.8%±2.3%</p> <p>Non-Hispanic white: 22.0%±2.5%</p> <p>Hispanic: 18.0%±2.7%</p> <p>Overall: 35.6%±1.7%</p> <p>Male: 34.8%±2.3%</p> <p>Female: 36.4%±2.0%</p> <p>Non-Hispanic black: 18.7%±2.7%</p> <p>Non-Hispanic white: 38.0%±1.9%</p> <p>Hispanic: 31.2%±3.6%</p>	<p>Absolute change: -1.5 pct pts; ± 2.8 pct pts</p> <p>-6.5 pct pts*; ± 3.2 pct pts</p> <p>3.4 pct pts; ± 3.5 pct pts</p> <p>-6.7 pct pts; ± 5.0 pct pts</p> <p>-1.4 pct pts; ± 3.3 pct pts</p> <p>-9.2 pct pts; ± 4.8 pct pts</p> <p>2.0 pct pts; ± 2.5 pct pts</p> <p>3.8 pct pts; ± 3.0 pct pts</p> <p>0.6 pct pts; ± 2.8 pct pts</p> <p>-3.0 pct pts; ± 4.0 pct pts</p> <p>1.6 pct pts; ± 2.7 pct pts</p> <p>5.7 pct pts; ± 5.4 pct pts</p>	<p>A reduction in the prevalence of current smokers in MA was found among the middle school group;</p> <p>However no impact was shown for the high school group</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Soldz 2002</p> <p>Study design: Time series with concurrent comparison group, interval</p> <p>Quality of execution: Good</p> <p>Continued on next page</p>	<p>Location: MA, US</p> <p>Program scale: State</p> <p>Implementation date: 93-94</p> <p>Intervention environment: Tax increase in 1992 of \$0.25 per pack</p> <p>Program funding: Funded through excise tax on cigarette packs</p> <p>Program details: Goal is to prevent youth from initiating smoking and to reduce their access to tobacco</p> <p>Community efforts: enforcement of youth access provisions; community-based tobacco prevention programs</p> <p>School efforts: youth based initiatives to prevent smoking</p> <p>Media efforts: statewide media campaigns to reduce smoking and smokeless tobacco use</p> <p>Comparison: MA compared to northeast regional: consisting of NY, PA, NJ, and five New England states (NE)</p> <p>MA compared to national trend, without MA (ROC)</p>	<p>Study period: 1996-1999</p> <p>Study population: 6th to 12th graders</p> <p>1996 sample: stratified random sample of schools and classrooms throughout the state with additional sample of students of public school classrooms in 5 urban areas with strong non-white student representation</p> <p>1999 sample: urban oversample replaced by additional 3 level stratification on minority student% in each school and a higher sampling rate for strata with a greater percentage of minority students</p>	<p>Prevalence: Current cigarette use: any use within past 30 days</p> <p>Prevalence: Current cigar use: any use within past 30 days</p>	<p>Grade 8, 96: MA: 26.0%</p> <p>NE: 22.1% ROC: 21.0%</p> <p>Grade 10, 96: MA: 33.6% NE: 31.7% ROC: 30.4%</p> <p>Grade 12, 96: MA: 40.7% NE: 38.5% ROC: 34.0%</p> <p>MA, 1996 Grade 8: 10.9% Grade 10: 16.0% Grade 12: 13.4%</p>	<p>Grade 8, 99: MA: 15.6%</p> <p>NE: 15.7% ROC: 17.5%</p> <p>Grade 10, 99: MA: 24.6% NE: 28.0% ROC: 25.7%</p> <p>Grade 12, 99: MA: 34.9% NE: 34.2% ROC: 34.6%</p> <p>MA, 1999: Grade 8: 5.4% Grade 10: 12.2% Grade 12: 12.3%</p>	<p>Absolute change MA: -10.4 pct pts; p<.05</p> <p>NE: -6.4 pct pts ROC: -3.5 pct pts DOD: MA vs. NE: -4 pct pts MA vs. ROC: -6.9 pct pts</p> <p>MA: -9 pct pts; p<0.05 NE: -3.7 pct pts ROC: -4.7 pct pts DOD: MA vs. NE: -5.3 pct pts MA vs. ROC: -4.3 pct pts</p> <p>MA: -5.8 pct pts; NS NE: -4.3 pct pts ROC: 0.6 pct pts DOD: MA vs. NE: -1.5 pct pts MA vs. ROC: -6.4 pct pts</p> <p>-5.5 pct pts; p<0.05</p> <p>-3.8 pct pts; NS</p> <p>-1.1 pct pts</p>	<p>Current cigarette use declined across all grade levels after program implementation with 8th and 10th graders showing a larger reduction</p> <p>The results for current smokeless tobacco use were mixed with only the 10th grade cohort showing a reduction in prevalence after the program started</p> <p>A reduction in prevalence was shown across all race ethnicity groups in the middle school cohort with the greatest impact among Hispanic and non-Hispanic black after program exposure</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Soldz 2002, Continued</p>			<p>Prevalence: Current smokeless tobacco use: any use within past 30 days</p> <p>Prevalence: Current cigarette use stratified by gender</p> <p>Disparities: current smoking prevalence stratified by race/ ethnicity (combining with Soldz'00)</p>	<p>1996-1999: Grade 8: NE: -2.4pp ROC: -2.6pp</p> <p>Grade 10: NE: -1.6pp ROC: -2.1pp</p> <p>Grade 12: NE: -4.1pp ROC: -1.4pp</p> <p>Grades 7-8: Female, 96: 23.1% Male, 96: 19.0%</p> <p>Grades 9-12: Female, 96: 36.5% Male, 96: 34.5%</p> <p>Grades 7-8, 93: Non-Hispanic Black: 22.5% Non-Hispanic White: 23.4% Hispanic: 27.2%</p> <p>Grades 9-12, 93: Non-Hispanic Black: 21.7% Non-Hispanic White: 36.4% Hispanic: 25.5%</p>	<p>1996-1999: Grade 8: MA: -1.7pp</p> <p>Grade 10: MA: -2.8 pct pts</p> <p>Grade 12: MA: -2.2 pct pts</p> <p>Grade 7-8: Female, 99: 13.9% Male, 99: 11.1%</p> <p>Grade 9-12: Female, 99: 29.2% Male, 99: 30.4%</p> <p>Grades 7-8, 99: Non-Hispanic Black: 10% Non-Hispanic White: 12.8% Hispanic: 13.8%</p> <p>Grades 9-12, 99: Non-Hispanic Black: 15.3% Non-Hispanic White: 33.0% Hispanic: 22.6%</p>	<p>DOD: MA vs. NE: 0.7pp MA vs. ROC: 0.9pp</p> <p>MA vs. NE:-1.2pp MA vs. ROC: -0.7 pct pts</p> <p>MA vs. NE:1.9pp MA vs. ROC: -0.8 pct pts</p> <p>-9.2 pct pts; p<0.01</p> <p>-7.9 pct pts; p<0.01</p> <p>-7.3 pct pts; p<0.01</p> <p>-4.1 pct pts; NS</p> <p>-12.5 pct pts; p<0.05</p> <p>-10.6 pct pts; p<0.01</p> <p>-13.4 pct pts</p> <p>-6.4 pct pts</p> <p>-3.4 pct pts</p> <p>-2.9 pct pts</p>	<p>A reduction in prevalence was shown across all race ethnicity groups in the high school cohort with the greatest impact among non-Hispanic blacks after implementation of the program</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Weintraub, 2002</p> <p>Study design: Interrupted time series with concurrent comparison</p> <p>Quality of execution: Fair</p> <p>Limited program description</p> <p>Decreasing response rates for BRFSS over the years</p>	<p>Location: MA, USA</p> <p>Program scale: State</p> <p>Implementation date: 93-94</p> <p>Intervention environment: Tax increase of \$0.25 in 1992</p> <p>Program funding: From tobacco product excise tax increase in 1992; revenue deposited to a Health Protection Fund; portions of this fund has been supporting MTCP since 1993</p> <p>Program details: The MTCP's principal goal is to reduce the public health risks of tobacco use through a comprehensive set of statewide, regional, and local activities aimed at preventing smoking initiation, improving smoking cessation, and reducing exposure to environmental tobacco smoke</p> <p>Comparison: 41 states that participated in the survey continuously since 1990 (Alaska, Arkansas, Kansas, Nevada, New Jersey, Rhode Island, and Wyoming are excluded). CA was excluded to enable appropriate comparison between Massachusetts and the states without substantial tobacco control programs for most of the period; Rest of country: ROC</p>	<p>Study period: 1990-1999</p> <p>Study population: Non-institutionalized adults aged 18 and older (BRFSS)</p>	<p>Smoking prevalence: percentage of current smokers</p> <p>Current smoker: smoked \geq 100 cigarettes in lifetime and currently smoking;</p> <p>Change since 1996: smokers are the ones who smoked at least 100 cigs in life time and currently smoking every day or some days;</p>	<p>Overall: MA, 1992: 22.8%</p> <p>ROC, 1992: 23.0%</p> <p>Female: MA, 1992: 21.1%</p> <p>ROC, 1992: 21.3%</p> <p>Male: MA, 1992: 24.8%</p> <p>ROC, 1992: 25.0%</p>	<p>Overall: MA, 1999: 19.4%</p> <p>ROC, 1999: 23.3%</p> <p>Female: MA, 1999: 19.3%</p> <p>ROC, 1999: 21.2%</p> <p>Male: MA, 1999: 19.5%</p> <p>ROC, 1999: 25.6%</p>	<p>Absolute change: MA, 92-99: -3.4 pct pts</p> <p>ROC, 92-99 : 0.3 pct pts</p> <p>MA vs. ROC: -3.7 pct pts</p> <p>MA, 92-99: -1.8 pct pts</p> <p>ROC, 92-99: -0.1 pct pts</p> <p>MA vs. ROC: -1.7 pct pts</p> <p>MA, 92-99: -5.3 pct pts</p> <p>ROC, 92-99: 0.6 pct pts</p> <p>MA vs. ROC: -5.9 pct pts</p>	<p>Tobacco control efforts in MA contributed to a reduction in smoking prevalence, resulting in a significant difference in trends of smoking prevalence between 1990 and 1999</p>

Minnesota Study

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: CDC 2011</p> <p>Study design: Interrupted time series with concurrent comparison group (prevalence; cigarette sales); Interrupted time series (daily consumption; SF related outcomes)</p> <p>Quality of execution: Fair No description of population Low response rate Confounding: tax increase and SF policies implemented during study period; unable to isolate program effectiveness in addition to these policy changes</p>	<p>Location: MN, US</p> <p>Program scale: State-wide</p> <p>Implementation date: Began in 2001 with quitline</p> <p>Intervention environment: SF policy; Tax increase over the years</p> <p>Program funding: From MSA</p> <p>Program details: Quitlines: introduced in 2001; for tobacco users without health insurance coverage; free NRT added in 2002</p> <p>Media: statewide campaigns started in 2001; to educate entire population re harms of tobacco use and to promote cessation</p> <p>Other cessation services: face-to-face; worksite; web-based</p> <p>Comparisons: state program compared to national trend for some of the results</p> <p>Comparison: State program compared to national trend for some of the outcomes</p>	<p>Study period: Evaluation from 1999 to 2010</p> <p>Study population: Eligibility set up by MATS (MN Adult Tobacco Survey); representative sample of entire MN civilian, non-institutionalized adult population; one adult from each HH identified through random dialing process</p> <p>Population characteristics not reported</p>	<p>Prevalence: 18 or older, ≥100 cigarettes in lifetime, currently smoked every day or some days</p> <p>Daily consumption: average # of cig smoked</p> <p>Per capita cigarette pack sales</p> <p>SHS exposure: anyone smoked near interviewee during past 7 days</p> <p>SF homes: if smoking is restricted in interviewee homes</p>	<p>1999: MN: 22.1%</p> <p>National: 23.3%</p> <p>MN, 1999: 14.3</p> <p>NR</p> <p>MN, 2003: 67.2%</p> <p>MN, 1999: 64.5%</p>	<p>2010 : MN: 16.1%</p> <p>National: 19.9%</p> <p>MN, 2010: 12.2</p> <p>99-09 : MN: -40% National: -35%</p> <p>MN, 2010: 45.6%</p> <p>MN, 2007 (prior to SF policy): 83.2%</p>	<p>Absolute change: MN: -6.0 pct pts</p> <p>National: -3.4 pct pts</p> <p>DOD: -2.6 pct pts</p> <p>Relative change: -14.7%</p> <p>Relative risk: 0.923</p> <p>Relative change: -7.7%</p> <p>Absolute change: -21.6pp -35.0 to -8.2 pct pts</p> <p>Absolute change: 18.7 pct pts 6.8 to 30.6 pct pts</p>	<p>Decline in percent of adult MN residents who smoke, reduction in number of cigarettes smoked, reported reduction in exposure to SHS, and the increase in SF homes collectively suggest a favorable shift in the tobacco use behaviors and practices of MN adults;</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

New York State Studies

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Lieberman, 2013</p> <p>Study design: Time series (post only) with concurrent comparison groups, interval</p> <p>Quality of execution: Fair</p> <p>No description of study population</p> <p>No description of sampling methods</p> <p>No description of outcome definition</p> <p>No description of statistical methods</p>	<p>Location: Rockland County, NYS; a small suburban county north of NYC</p> <p>Program scale: City/Local</p> <p>Implementation date: 2000</p> <p>Intervention environment: "Put It Out Rockland" program;</p> <p>Young Lungs at Play" ordinances: smoke-free ordinances; Taxes: both local and state</p> <p>Program funding: \$1 million of MSA funds to comprehensive tobacco control; dropped to \$325,000 by 2010; \$6.75 per capita of combined state and local funds dedicated to tobacco control in Rockland County (\$4.41 from NYS)</p> <p>Program details: Collaboration with nontraditional partners such as businesses, municipalities, schools, and media organizations; school and community youth clubs; promotion of smoke-free home policies in preschools, daycare centers, and work sites; cessation program with free NRT; targeted local media campaign: SHS and cessation messages; evaluation</p> <p>Comparison: For some outcomes, compared to NYS or US</p>	<p>Study period: 2003-2009; For youth smoking prevalence: 2000-2010;</p> <p>Study population: Rockland County: 298,585 people north of NYC by local computer-assisted random-digit dial telephone survey</p>	<p>Prevalence, adults</p> <p>Prevalence, youth: smoking in the past 30 days</p> <p>Smoking bans in home</p>	<p>Rockland, 2003: 16.0%</p> <p>NYS, 2003: 21.6%</p> <p>US, 2003: 22%</p> <p>Rockland, 2000: 8th graders: 5.4%</p> <p>10th graders: 16.8%</p> <p>Rockland 2003: 77.4%</p>	<p>Rockland, 2009: 9.7%</p> <p>NYS, 2009: 18%</p> <p>US, 2009: 17.9%</p> <p>Rockland, 2010: 8th graders: 3.3%</p> <p>10th graders: 9.5%</p> <p>Rockland 2009: 86.3%</p>	<p>Absolute change: -6.3pp</p> <p>-3.6pp</p> <p>-4.1pp</p> <p>DOD: Rockland vs. NYS: -2.7pp Rockland vs. US: -2.2pp</p> <p>-2.1pp</p> <p>-7.3pp</p> <p>8.9pp</p>	<p>At 9.7% prevalence, Rockland had the lowest smoking rate among NYS counties</p> <p>Rockland county showed greater decline in prevalence compared to US and New York State after program implementation</p> <p>Both 8th and 10th graders showed reduced prevalence with more impact in the 10th grade cohort</p> <p>More homes adopted smoking bans after program exposure</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Murphy, 2010</p> <p>Study design: Time series, interval</p> <p>Quality of execution: Fair</p> <p>Low follow-up: 34%</p> <p>People lost to follow-up are different from the ones finished the study in race and smoking habits; authors didn't control for this potential bias;</p>	<p>Location: NYS, US</p> <p>Program scale: State</p> <p>Implementation date: 2000</p> <p>Intervention environment: Clean Indoor Air Law, Medicaid coverage of smoking cessation medication, excise tax increase on cigarettes packs</p> <p>Program funding: NR</p> <p>Program details: NYS Smokers Quitline (2000) County tobacco coalitions: conduct local tobacco control programming, including media, Quit and Win Contests, and cessation activities, which complement the state initiatives</p> <p>Comparison: No comparison</p>	<p>Study period: 2002-2005</p> <p>Study population: Adult low income smokers recruited from the Department of Social Services in Erie County, New York and re-contacted in 2005. All self-reported current smokers</p>	<p>Number of cigarettes smoked per day (mean)</p> <p>Ever used cessation medication</p> <p>Ever called NYS Smokers Quitline</p>	<p>2002: 16.1 ±9.4</p> <p>2002: 26.6%</p> <p>2002: 4.2%</p>	<p>2005: 13.7±9.4</p> <p>2005: 51.9%</p> <p>2005: 11.0%</p>	<p>Relative change: -14.9%</p> <p>Absolute change: 25.3 pct pts</p> <p>Absolute change: 6.8pct pts</p>	<p>There is an overall decrease in smoking frequency and consumption, and an increase in cessation attempts and cessation product use between 2002 and 2005, when the various tobacco control initiatives began.</p>

New York City Studies

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: CDC, 2007</p> <p>Study design: Interrupted time-series</p> <p>Quality of execution: Good</p>	<p>Location: NYC, NY</p> <p>Program scale: City</p> <p>Implementation date: 2002</p> <p>Intervention environment: Smoke-free policy, excise tax</p> <p>Program funding: NR</p> <p>Program details: Media campaign, cessation services, education of public and healthcare providers, rigorous evaluation</p> <p>Comparison: N/A</p>	<p>Study period: 2002-2006</p> <p>Study population: NYC adult civilian, non-institutionalized residents</p>	<p>Prevalence: adults</p> <p>Prevalence, young adults</p> <p>Prevalence, stratified by race/ ethnicity</p> <p>Prevalence, stratified by education</p> <p>Prevalence, stratified by gender</p>	<p>2002 21.6% (20.5-22.6)</p> <p>23.8% (20.7-27.2)</p> <p>Non-Hispanic Black: 20.8% Non-Hispanic White 23.9% Asian/Pacific Is. 15.3% Hispanic 21.5% Other 22.8%</p> <p>Less than high school: 24.5% High school graduate: 23.9% Some college: 24.3% College or more: 16.4%</p> <p>Male 23.4% Female 19.8%</p>	<p>2006 17.5% (16.6-18.5)</p> <p>15.5% (12.5-19.1)</p> <p>17.7%</p> <p>19.8%</p> <p>10.7%</p> <p>17.1%</p> <p>18.3%</p> <p>23.0%</p> <p>21.5%</p> <p>19.3%</p> <p>13.0%</p> <p>19.9%</p> <p>15.3%</p>	<p>Absolute change: -4.1 pct. pts. P<0.001</p> <p>-8.3</p> <p>-3.1 pp P≤.05</p> <p>-4.1 pp P≤.05</p> <p>-4.6 pp P≤.05</p> <p>-4.4 pp P≤.05</p> <p>-4.5 pp P=NS</p> <p>-1.5 pp P=NS</p> <p>-2.4 pp P=NS</p> <p>-5.0 pp P≤.05</p> <p>-3.4 pp P≤.05</p> <p>-3.5 pp P≤.05</p> <p>-4.5 pp P≤.05</p>	<p>19% relative decrease (5% annually) in smoking prevalence from 2002-2006 (but, no change from 2004-2005). Aggressive media campaign (in 2006) can further decrease prevalence in context of comprehensive program.</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Frieden, 2005</p> <p>Study design: Before-after</p> <p>Quality of execution: Good</p> <p>Population characteristics provided for entire NYC, not the surveyed group; However, study participants representative of NYC</p> <p>Continued on next page</p>	<p>Location: New York City (NYC), NYS, US</p> <p>Program scale: City</p> <p>Implementation date: 2002</p> <p>Intervention environment: NYC tax increase from \$0.08 to \$1.50 per pack on July 2, 2002; NYS tax increase from \$1.11 to \$1.50 per pack on April 1, 2002; Combining NYC and NYS taxes, real price of a pack of cigarettes became \$6.85</p> <p>Smoke-Free Air Act: passed in 2002; effective on March 20, 2003; extending smoke-free environments</p> <p>Program funding: NR</p> <p>Program details: Cessation services: Treatment guidelines to all physicians in the city; Nicotine patch distribution program: free 6-week courses to heavy smokers, started on April 2, 2003</p> <p>Media component: Expansion of educational efforts; print media highlighted quitting</p> <p>Comparison: No comparison group; before-after study</p>	<p>Study period: NYS BRFSS: 1993 through 2001; NYC DOHMH: 2002 and 2003</p> <p>Study population: BRFSS: 3-year aggregates; 1993-95: 2828 respondents; 1996-98: 3759 respondents; 1999-01: 3271 respondents</p> <p>NYC DOHMH: random digit dialing telephone survey; 10 attempts made to reach each telephone number; One adult aged 18 or older randomly selected from each participating HH; Approximately 10,000 adult NYC residents</p>	<p>Prevalence: \geq 100 cigarettes in lifetime and smoked on all or some days</p> <p>Prevalence of heavy smoker: >10 cigarettes per day</p> <p>Prevalence of light smoker: 1-10 cigarettes per day</p> <p>Prevalence, stratified by gender</p> <p>Prevalence, stratified by race/ethnicity</p> <p>Prevalence, stratified by education</p>	<p>2002: Young adults (18-24): 23.8%</p> <p>Adults: 21.6%</p> <p>Heavy smoker: 8.0%</p> <p>Light smoker: 13.4%</p> <p>Female: 19.8% Male: 23.4%</p> <p>Non-Hispanic black: 20.8% Non-Hispanic white: 23.9% Asian/Pacific Is.: 15.3% Other: 22.8% Hispanic: 21.5%</p> <p>Less than high school: 24.5% High school grad: 23.9% Some college: 24.3% College or more: 16.4%</p>	<p>2003: Young adults (18-24): 19.3%</p> <p>Adults: 19.2%</p> <p>Heavy smoker: 6.2%</p> <p>Light smoker: 12.9%</p> <p>Female: 17.2% Male: 21.6%</p> <p>Non-Hispanic black: 18.3% Non-Hispanic white: 21.9% Asian/Pacific Is.: 13.6% Other: 20.2% Hispanic: 19.0%</p> <p>Less than high school: 23.0% High school grad: 21.5% Some college: 19.3% College or more: 13.0%</p>	<p>Absolute change: -4.5 pct pts</p> <p>-2.4 pct pts</p> <p>-1.8 pct pts</p> <p>-0.5 pct pts</p> <p>-2.6 pct pts -1.8 pct pts</p> <p>-2.5 pct pts -2.0 pct pts -1.7 pct pts -2.6 pct pts -2.5 pct pts</p> <p>-1.5 pct pts -2.4 pct pts -5 pct pts -3.4 pct pt</p>	<p>Overall the largest declines in smoking prevalence were among young people and heavy smokers (Also women, people in the lowest and highest income brackets, and people with higher educational levels)</p> <p>An increase in quit attempts was observed among NYC smokers 2002-2003</p> <p>Consumption dropped after initiation of the program in NYC</p> <p>In both home and work settings second hand smoke exposure decreases after implementation of NYC comprehensive program</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Frieden, 2005, continued</p>			<p>Prevalence stratified by income level</p> <p>Quit attempts: at least once during the preceding year</p> <p>Consumption: cigarettes smoked per day</p> <p>Secondhand Smoke (SHS): Non-smoking adults reporting exposure at home</p> <p>SHS exposure at work by non-smokers</p>	<p><\$25,000: 24.1%</p> <p>\$25,000-49,999: 23.5%</p> <p>\$50,000-74,999: 18.5%</p> <p>≥75,000: 18.7%</p> <p>NYC smokers, 2002: 57.3%</p> <p>NYC smokers, 2002: 11.2</p> <p>NYC residents, 2002: 8.5%</p> <p>Low income home: 9.3%</p> <p>Non-Hispanic whites: 8.4%</p> <p>Hispanic: 10.5%</p> <p>NYC residents, 2002: 8.9%</p>	<p><\$25,000: 21.3%</p> <p>\$25,000-49,999: 21.9%</p> <p>\$50,000-74,999: 19.4%</p> <p>≥75,000: 15.9%</p> <p>NYC smokers, 2003: 59.5%</p> <p>NYC smokers, 2003: 10.6</p> <p>NYC residents, 2003: 6.0%</p> <p>Low income home: 5.8%</p> <p>Non-Hispanic whites: 5.3%</p> <p>Hispanic: 5.6%</p> <p>NYC residents, 2003: 7.3%</p>	<p>Absolute change: -2.8 pct pts</p> <p>-1.6 pct pts</p> <p>0.9 pct pts</p> <p>-2.8 pct pts</p> <p>2.2pp</p> <p>-0.6 cigarettes per day</p> <p>Relative change: -5.4%</p> <p>-2.5 pct pts</p> <p>Relative change: -29.4%, p<.0001</p> <p>-3.5 pct pts</p> <p>Relative change: -37.6%, p<.0001</p> <p>-3.1 pct pts</p> <p>Relative change: -36.9%, p=.003</p> <p>-4.9 pct pts</p> <p>Relative change: -46.7%, p<.0001</p> <p>-1.6pp</p> <p>Relative change: -18.0%, p=.005</p>	<p>The evidence demonstrates greater declines in prevalence among the low income groups</p> <p>Reductions in daily smoking occurred among all groups with the greatest decline among the lowest income group.</p> <p>The evidence showed a greater decline in second hand smoke exposure among Hispanics than non-Hispanic whites</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Kilgore, 2014</p> <p>Study design: Interrupted time-series with concurrent comparison</p> <p>Quality of execution: Fair</p> <p>No description of study population</p> <p>Limited details on survey methods</p> <p>No description of data analysis</p>	<p>Location: NYC, NY</p> <p>Program scale: City</p> <p>Implementation date: 2002</p> <p>Intervention environment: Smoke-free policies, tobacco tax, various other policies</p> <p>Program funding: Well-funded program; revenue generated from tobacco taxes</p> <p>Program details: Quitline, mass-media, access to cessation medicines, evaluation</p> <p>Comparison: NYC compared with rest of US (ROC)</p>	<p>Study period: 2002-2012</p> <p>Study population: New York City Community Health Survey: telephone survey of 8,000-10,000 adults; weighted to represent population of NYC adults</p> <p>Youth Risk Behavior Survey: assesses smoking behavior in ~10,000 NYC students in public high school</p>	<p>Prevalence: adult smoking</p> <p>Rate of decline, 2002-2010</p> <p>Prevalence: smoking among high school students</p> <p>Consumption among daily smokers: number of cigarettes per day</p>	<p>2002 NYC: 21.5%</p> <p>ROC: 22.6%</p> <p>ROC: -0.65; SE=0.02</p> <p>2001 NYC: 17.6%</p> <p>ROC: 28.5%</p> <p>2002: 14.6 cigs./ day</p>	<p>2010 NYC: 14.0%</p> <p>ROC: 17.3%</p> <p>NYC: -0.83; SE=0.07</p> <p>2011 NYC: 8.5%</p> <p>ROC: 18.1</p> <p>2012: 11.8 cigs./ day</p>	<p>Absolute change: -7.5 pct pts</p> <p>-5.3 pp DOD: -2.2 pp</p> <p>Absolute change: -9.1 pct pts</p> <p>-10.4 pct pts DOD: 1.3 pct pts</p> <p>Absolute change: -2.8 cig per day</p> <p>Relative change: -19.2%</p>	<p>Adult and youth smoking prevalence, and adult cigarette consumption, declined over the study period.</p>

Oregon Study

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: CDC, 1999</p> <p>Study design: Before-After</p> <p>Quality of execution: Fair</p> <p>No population description</p> <p>No statistical tests carried out or described</p>	<p>Location: OR, USA</p> <p>Program scale: State</p> <p>Implementation date: 1997</p> <p>Intervention environment: Increase in cigarette tax by 30 cents to 68 cents per pack</p> <p>Program funding: Program details: 10% of the additional tax revenue allocated to Oregon Health Division to develop and implement a tobacco use prevention program</p> <p>Comparison: Compared to national data excluding data from OR, AZ, CA and MA (data not available for duration of the study, hence not used)</p>	<p>Study period: Pre: 1993-96 Post: 1997-98</p> <p>Study population: Cigarette consumers (Smokers) in OR</p> <p>Population characteristics not reported</p>	<p>Annual per capita sales of cigarettes: taxed pack sales (Per capita consumption calculated by dividing the number of packs sold by the population of OR each year)</p>	<p>1996: 92 packs</p>	<p>1998: 82 packs</p>	<p>Relative change: -11.3%</p>	<p>Oregon experienced a 11.3% reduction in cigarette consumption, from 92 packs to 82 packs per capita. The decline in cigarette consumption in Oregon, California and Massachusetts indicates that an adequately funded comprehensive tobacco control program can quickly and substantially reduce tobacco use.</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: McAlister, 2006</p> <p>Study design: For Port Arthur/Beaumont area, the area of interest, before-after with concurrent comparison groups</p> <p>Quality of execution: Fair</p> <p>No description of study population</p> <p>Sampling methods not clearly described</p>	<p>Location: Port Arthur/Beaumont; Harris County; TX, US</p> <p>Program scale: City/Local</p> <p>Implementation date: Pilot started in 2000</p> <p>Intervention environment: No other policies in place</p> <p>Program funding: MSA awarded TX with about \$1.5bil; \$200mil endowment established with about \$9mil per year spent on tobacco control</p> <p>2001-03: Harris County expanded to funding to \$12mil per year</p> <p>2003-05: Reduction in support for tobacco control; Harris county at \$1 per capita</p> <p>Program details: Media: youth and adult focused to prevent initiation and increase cessation</p> <p>QL: funding and promotion of ACS QL</p> <p>School/community activities: primarily to prevent youth initiation</p> <p>Comparison: Port Arthur/Beaumont (sustained / comprehensive tobacco control program); Harris county (including Houston) (not sustained/ comprehensive tobacco control program) Select reference areas in other parts of state(comprehensive programs lacking)</p>	<p>Study period: 2000-2004;</p> <p>Study population: Random digit dialing in study areas and selected areas of TX: Port Arthur/Beaumont; Harris County, State of TX</p>	<p>Prevalence: any cigarette use in past 30 days</p> <p>Daily consumption: mean # of cigarettes per day per person</p>	<p>Port Arthur/Beaumont, funding continuous from 2000 to 2005; 2000:22%</p> <p>Rest of state, 2000:19%</p> <p>Beaumont/Port Arthur, Non-Hispanic White men, 2000:6.6%</p> <p>Rest of state, Non-Hispanic White men, 2000:4.5%</p>	<p>Port Arthur/Beaumont, funding continuous from 2000 to 2005; 2005:16%</p> <p>Rest of state, 2000:17%</p> <p>Beaumont/Port Arthur, Non-Hispanic White men, 2004:3.1%</p> <p>Rest of state, Non-Hispanic White men, 2000:4.6%</p>	<p>Absolute Change:</p> <p>-6.0 pct pts</p> <p>-2.0 pct pts</p> <p>DOD: Port Arthur/Beaumont vs rest of state: -4.0 pct pts</p> <p>Relative Change:</p> <p>-53.0%</p> <p>2.2%</p> <p>BT/PA vs. ROS</p> <p>Relative risk: 0.47/1.022 = 0.460</p> <p>Relative change: -54.0%</p>	<p>The Port Arthur/Beaumont region showed a greater reduction in prevalence than the rest of the state which lacked a sustained comprehensive program.</p> <p>Similarly the Non-Hispanic White men cohort showed an overall -54.0% reduction in daily consumption with sustained program exposure compared to the rest of the state (without sustained program).</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Meshack, 2004</p> <p>Study design: Before- After with concurrent comparison</p> <p>Quality of execution: Fair</p> <p>Program evaluated fall and spring of 6th grade, but they may not have begun smoking in fall of 6th grade, program may have inflated effect</p> <p>Intensive media/comprehensive community program group had highest baseline prevalence, so largest drop in this group could somewhat reflect regression to mean, but, tobacco use may be higher among minority groups, so this could possibly be explained</p>	<p>Location: Texas, USA</p> <p>14 locations in East Texas and the city of Houston, each location had a population of ~100,000, site 15 was the control area</p> <p>Program scale: Local</p> <p>Implementation date: 1999-2001; spring and fall of 2000</p> <p>Intervention environment: NR</p> <p>Program funding: ~\$20 mil. From tobacco industry settlement; \$0.50-3.00 annual per capita for intervention communities</p> <p>Program details: Intervention(s) randomly assigned to each site; cessation activities, law enforcement, low or intensive media program, and enhanced school programs; Comprehensive program: with all 4 interventions 2 schools assigned to no program/no media, 2 to no program/low media, 1 to no program/ intensive media, 1 to enhanced school/no media, 1 to enhanced school/low media, 1 to enhanced school/intensive media, 2 to comprehensive/low media, and one to comprehensive program/intensive media;</p> <p>Comparison: Areas within TX with or without program</p>	<p>Study period: Spring and fall (Nov/Dec) 2000</p> <p>Study population: Young adolescents (6th graders) from 11 middle schools</p> <p>Male: 50% White: 32.6% African Am: 20.1% Asian: 5.4% Other: 5% Hispanic: 6.8%</p>	<p>Tobacco use: any tobacco product (cigarettes, pipes, cigars, or spit tobacco) used in the past 30 days; current tobacco user indicated tobacco use on ≥1 day of past 30; current cigarette use measured in same fashion</p>	<p>Relative change in tobacco use: No media + No community program: -28.3%</p>	<p>Relative change in tobacco use: Low media + Comp community program: -40.0% Intense media + Comp community program: -60.8%</p>		<p>The most effective combinations of interventions to reduce tobacco use among 6th grade students were the intensive mass media combined with comprehensive community programs. Combinations without one or both of these components, or with less-comprehensive versions, were associated with smaller reductions in tobacco use.</p>

Washington Studies

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported Baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Dilley, 2007</p> <p>Study design: Interrupted time series with concurrent comparison group</p> <p>Quality of execution: Fair</p>	<p>Location: Washington State</p> <p>Program scale: State</p> <p>Implementation date: Fall 2000</p> <p>Intervention environment: Smoke-free policies, tax increases, retail legislation, ban of tobacco from schools, ban of tobacco possession by young people</p> <p>Program funding: Started in fall of 2000 with \$100mil out of \$320mil of MSA settlement; 2001: program funded at \$17.5mil per year; 2002: with tax increase, funded at \$26.3mil/year; 2005-2007: total: \$26.3mil; per capita: \$4.19</p> <p>Program details: Community/tribal programs, school education programs, statewide programs, counter-marketing, cessation (programs supporting cessation through health care providers, quitline, ROPC for underserved groups), surveillance and evaluation, administration, tobacco-related disease programs</p> <p>Comparison: WA compared to national trend</p>	<p>Study period: 1990 to 2005 for adults; 2000 to 2005 for youths</p> <p>Study population: Adult and Youths of Washington State</p> <p>Youth surveys: WA state: 6, 8, 10, and 12 graders National: 8, 10, 12 graders</p> <p>2005 WA BRFSS data: Prevalence higher in those with high school education or less; those aged 18-29; those living in nonurban zip-code areas; those who were LGB; those who were black, Native American, Pacific Islander, or English speaking Hispanic</p>	<p>Prevalence, adults and youth: smoker who smoked in past 30 days</p>	<p>Adults: 2001 WA: 22.5% US: 22.7%</p> <p>Youth: 8th graders Fall 2000 WA: 12.5%</p> <p>Spring 2001 US: 12.2%</p>	<p>2005 WA: 17.6% US: 20.9%</p> <p>Spring 2004 WA: 7.8%</p> <p>Spring 2005 US: 9.3%</p>	<p>Absolute change: -4.9 pct pts -1.8 pct pts DOD: -3.1 pct pts</p> <p>-4.7 pct pts</p> <p>-2.9 pct pts DOD: -1.8 pct pts; NS</p> <p>10th grader: WA: -6.8 pct pts US: -6.4 pct pts DOD: -0.4 pp; NS</p> <p>12th grader: WA: -7.9 pct pts US: -6.3 pct pts DOD: -1.6 pp; NS</p>	<p>From 2000 through 2005, with funding close to CDC recommended level, smoking prevalence in WA declined significantly among both adults and youth (and significantly more than in the nation as a whole)</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported Baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Dilley, 2012</p> <p>Study design: Interrupted time series with concurrent comparison group</p> <p>Quality of execution: Fair</p> <p>No description of study population</p> <p>Limited description of sampling methods</p> <p>Outcomes not clearly defined</p> <p>Results only provided in coefficient, not translated, making it hard to interpret magnitude of impact</p>	<p>Location: Washington state, US</p> <p>Program scale: State</p> <p>Implementation date: Comprehensive tobacco control program started in 2000</p> <p>Intervention environment: Smoke-free policy: state-wide since December 2005; Multiple cigarette tax increases in WA: 1993 0.20 cents/pack increase 1994 0.25 cents/pack increase 1995 0.25 cents/pack increase 1996 0.01 cents/pack increase 2002 0.60 cents/pack increase 2006 0.60 cents/pack increase</p> <p>Program funding: Partially funded by a cigarette tax increase after 2002</p> <p>Program details: Program launched in Fall 2000; Components recommended by CDC: Statewide media campaign; Tobacco quitline; Community and school programs</p> <p>Comparison: WA state compared to the national trend (in the 2nd of 2 models)</p>	<p>Study period: Smoking prevalence: data from 1990 to 2009; Cancer diagnosis: data from 1992 to 2007 Hospitalization: data from 1990 to 2008</p> <p>Study population: WA state BRFSS: adults</p> <p>NHIS: non-institutionalized US population</p>	<p>Prevalence: smoking among adults</p> <p>Cancer diagnosis and hospitalization : limited to cancers that are at least 60% attributable to smoking (such as lung, bronchus, and trachea cancer; lip, oral cavity, and pharynx cancer; larynx cancer; esophageal cancer); (Model 2 data with national trend shown)</p>	<p>WA, adults, 1999 (estimated from graph): 22%</p> <p>US, adults, 1999 (estimated from graph): 24%</p> <p>Ischemic heart disease hospitalization</p> <p>Cerebrovascular disease hospitalization</p> <p>Chronic respiratory disease hospitalization</p> <p>Esophageal cancer incidence</p> <p>Larynx cancer incidence</p> <p>Oral cancer incidence</p>	<p>WA, adults, 2009(estimated from graph): 15%</p> <p>US, adults, 1999 (estimated from graph): 20%</p>	<p>Absolute change: -7.0 pct pts</p> <p>-4.0 pct pts DOD: -3.0 pct pts</p> <p>Coefficient: -5.93 P=0.14</p> <p>Coefficient: -4.05 P=0.04</p> <p>Coefficient: -7.83 P=0.11</p> <p>Coefficient: -0.34 P=0.005</p> <p>Coefficient: 0.07 P=0.52</p> <p>Coefficient: 0.13 P=0.45</p>	<p>Both WA and the US had a reduction in adult prevalence with WA showing the greater decline with exposure to a comprehensive program;</p> <p>Among all the diseases examined, tobacco control program had the most impact on ischemic heart disease, cerebrovascular disease, and chronic respiratory disease hospitalizations, both with and without taking the national trend into account</p>

Wisconsin Study

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Bandi, 2006</p> <p>Study design: Before-after with concurrent comparison</p> <p>Quality of execution: Fair</p> <p>No description of study population; only limited info. of the comprehensive program</p> <p>No measure of statistical significance</p>	<p>Location: Wisconsin (US)</p> <p>Program scale: State</p> <p>Implementation date: : 1999 (but funding and programs start in 2001)</p> <p>Intervention environment: Taxes: October 2001, raised the tax on a pack of cigarettes from \$0.59 to \$0.77</p> <p>Program funding: In 2000 \$20.8 million per year; \$13 million per year since 2002</p> <p>Program details: Quit lines Media counter marketing Local programs in the form of local tobacco control coalitions</p> <p>Comparison: State compared with US</p>	<p>Study period: July 1, 2001- June 30, 2003</p> <p>Study population: Wisconsin population</p>	<p>Consumption: annual per capita cigarette sales (packs per fiscal year)</p>	<p>Wisconsin 2001: 78.2</p> <p>US 2001: 81.8</p>	<p>Wisconsin 2003: 71.0</p> <p>US 2003: 78.7</p>	<p>Relative change: -9.2%</p> <p>-3.8%</p> <p>WI vs. US, 2001-2003 DOD: -5.6%</p>	<p>Wisconsin showed reduced tobacco consumption following implementation of its tobacco control program compared to the U.S.</p>

US Studies: Impact of Increased Program Funding/Strength

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Adams, 2012</p> <p>Study design: Panel</p> <p>Quality of execution: Fair</p>	<p>Location: 29 U.S. + NYC</p> <p>Program scale: State + City</p> <p>Implementation date: Varies by state and city</p> <p>Intervention environment: Smoke-free policies and excise taxes in some states</p> <p>Program funding: NR</p> <p>Program details: NR</p> <p>Comparison: Level of tobacco control funding</p>	<p>Study period: 2000-2005 (some locations [n= 16] provided data for entire study period, while others only provided data for some of the period)</p> <p>Study population: Women with live births between the years of 2000 and 2005</p> <p>Mean age: 27.3 years Race/ethnicity: 63% of white race</p>	<p>Prevalence: maternal smoking prevalence in the 3 months prior to pregnancy</p> <p>Cessation: among women who were smokers before pregnancy, those who stopped smoking by final 3 months of pregnancy</p> <p>Maintained cessation: women who did not smoke in the final 3 months of pregnancy, or at the time of the postpartum survey</p>			<p>Regression coefficient:</p> <p>Real price model: -0.0008, NS Real tax model: -0.0008, NS</p> <p>Real price model: -0.0009, NS Real tax model: -0.0008, NS</p> <p>Real price model: -0.0008, NS Real tax model: -0.0007, NS</p> <p>Among women aged 35+ years: Real price model: 0.01, p<0.05 Real tax model: -0.0098, p<0.05</p>	<p>Funding for comprehensive tobacco control programs was not associated with reduced maternal smoking prevalence or increased smoking cessation. However, there was a statistically significant increase in maintained cessation after giving birth among women aged >34 years.</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Chattopadhyay, 2011</p> <p>Study design: Panel study</p> <p>Quality of execution: Fair</p>	<p>Location: 50 states, US</p> <p>Program scale: State-wide;</p> <p>Implementation date: Varies;</p> <p>Intervention environment: Smoke-free policies in effect for most states. Taxes on tobacco products for most states;</p> <p>Program funding: NR;</p> <p>Program details: NR;</p> <p>Comparison: Funding levels from 50 states;</p>	<p>Study period: : 1991 to 2007</p> <p>Study population: US population age 15–24, age 25 and above;</p> <p>Education: 24.3% college graduate; Std. Dev.: 5.01%;</p> <p>Age: 15-24: 14.3%; Std. Dev.: 1.2%;</p> <p>25 and above: 64.6%; Std. Dev.: 2.97%;</p> <p>SES: Unemployment rate: 5.1%; Std. Dev.: 1.4%;</p> <p>Population (mil): 5.51; Std. Dev.: 6.06;</p>	<p>Cigarette sales in relation to tobacco control program funding (state- level); state tax-paid cig sales, in mil of packs;</p> <p>Two independent effects: contemporaneous effect; elapsed time effect (time since initial control funding during study period);</p>			<p>Regression coefficients:</p> <p>Tax based model, cumulative funding: Fixed effects model: -0.0004; NS</p> <p>Random effects model: -0.0003; p<0.01</p> <p>Price based model, cumulative funding: Fixed effects model: -0.00044; p<0.01</p> <p>Random effects model: -0.0004; p<0.01</p>	<p>All else being equal, for every \$mil increase in funding in 1991, there is a corresponding decrease in per-capital cigarette sales of 0.022% and 0.308% in years 1997 and 2007, respectively;</p> <p>Same level of current control expenditure has larger and larger effect in reducing cig sales as time passes;</p>

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<p>Author, Year: Ciecierski, 2011</p> <p>Study design: Panel study</p> <p>Quality of execution: Fair; all panel studies are assigned this grade</p>	<p>Location: States, US</p> <p>Program scale: State</p> <p>Implementation date: CA started in 1989; other states followed</p> <p>Intervention environment: Cigarette tax Clean air laws</p> <p>Program funding: The mean of current expenditures for the full sample is \$0.92 with a standard deviation of \$1.4; For example, funding ranged from \$.01 per capita in TX, TN, and AL, to \$5.89 in MA (1997)</p> <p>Program details: NR</p> <p>Comparison: Expenditure on tobacco control programs from various states in US;</p>	<p>Study period: 1997, 1999, and 2001 surveys</p> <p>Study population: Randomly selected sample of 4-year colleges and universities across the US; Limited to students aged 18-25 who were in 1-4 years of college; association between state-level expenditures on tobacco control program and a range of individual-level smoking-related behaviors in college students</p> <p>Some characteristics provided in Table 1 of study</p>	<p>Prevalence: Past month smoking prevalence</p> <p>Daily smoking prevalence</p> <p>Past month cigar use prevalence</p> <p>Quit attempt: whether respondents made any attempt to quit smoking in the past 12 months for at least 24 hours</p>			<p>Regression coefficient, tobacco outcome in association with lagged tobacco control funding: -0.02</p> <p>Coefficient: -0.04</p> <p>Coefficient: -0.06</p> <p>4.1% increase in likelihood of quit attempt among daily smokers</p>	<p>Doubling of lagged per capita expenditures is associated with 2% decline in the prevalence ;</p> <p>Doubling of lagged per capita expenditures is associated with 3.8% decline in the prevalence (full sample);</p> <p>A doubling of lagged per capita expenditures is associated with a 6.3% decline in prevalence (full sample);</p> <p>Lagged expenditure associated with increased quit attempts in the past year among students who were daily smokers (in state sample)</p>

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<p>Author, Year: Farrelly, 2003</p> <p>Study design: Panel study</p> <p>Quality of execution: Fair; grade given to all panel studies</p>	<p>Location: all states US;</p> <p>Program scale: State</p> <p>Implementation date: First program in CA started in 1989; varies by state governments;</p> <p>Intervention environment: Varies by state</p> <p>Program funding: For US: state cigarette excise taxes; voluntary organizations; federal programs; In FY 2000, funding for states ranged from \$0.08 to \$12.69 per capita</p> <p>3 national programs: ASSIST; IMPACT; SmokeLess States</p> <p>MSA: \$206bil for 46 states over 25 years; MS and FL settled in 1997; MN and TX settled in 1998</p> <p>Program details: included some or all of the following components: Media campaigns using TV, radio, and/or print; School-based programs; Quitlines; Community programs to promote smoking cessation and tobacco control policy change; Enforcing existing policies re smoking ban and youth access</p> <p>Comparison: Across US states; also states with comprehensive tobacco control programs (AZ, CA, MA, OR)</p>	<p>Study period: Data from 1981 to 2000;</p> <p>Study population: Varied based on state;</p>	<p>Consumption: per capita cigarette sales</p>		<p>All states, Current spending as independent variable</p> <p>All states, Lagged spending as independent variable</p> <p>All states, Cumulative spending as independent variable with 5% discount</p> <p>AZ, CA, MA, OR Current spending as independent variable</p> <p>AZ, CA, MA, OR Lagged spending as independent variable</p> <p>AZ, CA, MA, OR Cumulative spending as independent variable with 5% discount,</p>	<p>Regression coefficient: -0.53 Elasticity: -0.0015</p> <p>Coefficient: -0.69 Elasticity: -0.0016</p> <p>Coefficient: -0.21 Elasticity: -0.002</p> <p>Coefficient: -0.42 Elasticity: -0.0090</p> <p>Coefficient: -0.46 Elasticity: -0.0083</p> <p>Coefficient: -0.29 Elasticity: -0.0225</p>	<p>The elasticities from all of the 50- and 4-state models indicate tobacco control expenditures impact cigarette sales; comparing elasticities across the models shows more established programs may have a larger dollar for dollar impact</p> <p>Current and cumulative expenditures in the 4 states with comprehensive tobacco control programs have a somewhat larger impact on cigarette sales than the corresponding results from all 50 states</p>

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Farrelly, 2008</p> <p>Study design: Panel study</p> <p>Quality of execution: Fair; grade given to all panel studies</p>	<p>Location: 50 states, US;</p> <p>Program scale: State</p> <p>Implementation date: varies by state governments</p> <p>Intervention environment: Varies by state;</p> <p>Program funding: Varies by state</p> <p>Program details: Varies by state</p> <p>Comparison: Tobacco control program spending across states in US</p>	<p>Study period: 1985 to 2003 (Smoking prevalence: 1985, 1989, 1992–1993, 1995–1996, 1998–1999, 2000, 2001–2002, and 2003)</p> <p>Study population: Each survey of approximately 50,000 HH; persons 15 or older answering questions; Analysis limited to adults 18 or older who responded themselves</p>	<p>Adult smoking prevalence in relation to cumulative state per capita expenditures (Current annual expenditures plus past expenditures, discounted by 10%, 25%, or 50% per year)</p> <p>Adult smoking prevalence: 1985 and 1989: lifetime >100 cigarettes; smoking now</p> <p>Since then: lifetime > 100 cigarettes; smoking now every day or some days</p>		<p>Cumulative spending with 10% discount, overall</p> <p>Age 18-24</p> <p>Age 25-39</p> <p>Age ≥ 40</p> <p>Cumulative spending with 25% discount, overall</p> <p>Age 18–24</p> <p>Age 25–39</p> <p>Age≥40</p> <p>Cumulative spending with 50% discount, overall</p> <p>Age 18-24</p> <p>Age 25-39</p> <p>Age ≥ 40</p>	<p>Elasticity: –0.017</p> <p>Elasticity: –0.014</p> <p>Elasticity: –0.019</p> <p>Elasticity: –0.017</p> <p>Elasticity: –0.014</p> <p>Elasticity: –0.009</p> <p>Elasticity: –0.015</p> <p>Elasticity: –0.016</p> <p>Elasticity: –0.010</p> <p>Elasticity: –0.003</p> <p>Elasticity: –0.09</p> <p>Elasticity: –0.013</p>	<p>Elasticity: Doubling expenditures would likely lead to a 1.0% to 1.7% decrease in smoking prevalence, with the larger effects associated with smaller discounts</p> <p>Age specific effect: expenditures significantly and consistently associated with declines in smoking prevalence among adults aged 25 to 39 years and among those 40 and older; association only found with cumulative expenditures discounted at 10% for adults 18-24 years</p>

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Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Farrelly, 2013 (AJPH)</p> <p>Study design: Panel study</p> <p>Quality of execution: Fair; all panel studies given this grade</p>	<p>Location: 50 states, US</p> <p>Program scale: State</p> <p>Implementation date: First comprehensive program started in 1989; varies by state</p> <p>Intervention environment: Cigarette prices increased from \$2.62 to \$4.35 from 1997 to 2008, largely due to increases in cigarette excise tax</p> <p>State and local smoke-free air ordinances in workplaces, restaurants, and bars, from 3.8% to 68.6% from 1997 to 2008</p> <p>Program funding: Average per capita funding for state tobacco programs more than doubled in real terms from \$1.21 in 1997 to \$2.52 in 2008</p> <p>Program details: NR</p> <p>Comparison: Tobacco control expenditures across states compared to each other</p>	<p>Study period: 2002-2008</p> <p>Study population: Civilian, non-institutionalized population 12 years or older;</p> <p>Youth and young adults oversampled, so that each state sample was approximately equally distributed among 3 age groups: 12-17 years; 18-25 years; and 26 years or older</p>	<p>Youth prevalence: smoked cigarettes at least 1 day in the past 30 days</p> <p>Youth prevalence: Established smokers, currently smoking and >100 cigarettes in lifetime</p> <p>Initiation: Initiated smoking in the past year if date of reported 1st cigarette use within 12mon of survey date</p>			<p>OR=0.993 [95%CI:0.989, 0.996] Elasticity: -0.040</p> <p>OR 0.993 [95% CI 0.988, 0.998] Elasticity: -0.041</p> <p>OR=0.993 [95%CI:0.988, 0.998] Elasticity: -0.059</p>	<p>A doubling of per capita cumulative spending on tobacco control programs would lead to a 4% decrease in both current and established smoking;</p> <p>A doubling of per capita cumulative spending on tobacco control programs would lead to a 6% decrease in past-year initiation</p>

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<p>Farrelly, 2013 (JPHMP)</p> <p>Study design: Panel</p> <p>Quality of execution: Fair</p>	<p>Location: US, all 50 states</p> <p>Program scale: Varies by location</p> <p>Implementation date: Varies by location</p> <p>Intervention environment: Varies by location</p> <p>Program funding: Varies by location</p> <p>Program details: Varies by location detail</p> <p>Comparison: Describe if comparison group reported</p>	<p>Study period: NYTS data: 1999, 2000, 2002, 2004, and 2006; TUS-CPS data: 1995, 1996, 1998, 1999, 2001, 2002, 2003, and 2006; National Survey on Drug Use and Health: 1999-2000</p> <p>Study population: All US adults, middle, and high school students in states surveyed by the NYTS (12-17 year olds) and/or TUS-CPS (25+ year olds) that had some level of tobacco control funding; National Survey on Drug Use and Health: youth at the state-level</p> <p>N= 50,242 students for middle school model; N= 56,287 students for high school model</p>	<p>Correlation between youth smoking prevalence and per capita cumulative state tobacco control funding</p> <p>Youth smoking prevalence: smoked in the 30 days prior to survey participation</p>			<p>Middle school students: OR: 0.93; P= 0.08</p> <p>Elasticity -0.05</p> <p>High school students: OR: 0.91 P=0.01</p> <p>Elasticity -0.05</p>	<p>Cumulative per capita tobacco control funding associated with lower odds of middle and high-school smoking prevalence. However, this was only statistically significant among high school students.</p>

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<p>Author, Year: Farrelly, 2014</p> <p>Study design: Panel study;</p> <p>Quality of execution: Fair; given to all panel studies</p>	<p>Location: US, 50 states;</p> <p>Program scale: State</p> <p>Implementation date: Varies by state</p> <p>Intervention environment: NR</p> <p>Program funding: NR</p> <p>Program details: NR</p> <p>Comparison: Compared tobacco control funding level across 50 states in U.S.</p>	<p>Study period: 2002-2009</p> <p>Study population: Civilian, non-institutionalized population 12 or older; This study focused on young adults 18-25 years old;</p>	<p>Prevalence: Current smokers: smoked during the past 30 days;</p> <p>Prevalence: Established smokers: 100 cigarettes in lifetime, and smoked in past 30 days</p> <p>Initiation: never smokers who initiated smoking in the past year; date of reported 1st cigarette use within 12mon from date of survey interview</p>			<p>OR=0.992 [95%CI 0.990, 0.994] Elasticity: -0.034</p> <p>OR=0.992 [95%CI:0.990, 0.995] Elasticity: -0.036</p> <p>OR=0.994 [95%CI:0.989, 1.0] Elasticity: -0.040</p>	<p>Doubling of cumulative funding for state tobacco control programs would have led to relative decreases in current and established smoking by 3.4% and 3.6% respectively;</p> <p>Despite the strong influence of tobacco policies on young adult current and established smoking, there was no association between these policies and past year initiation</p>

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<p>Author, Year: Jemal, 2011</p> <p>Study design: Panel</p> <p>Quality of execution: Fair</p>	<p>Location: USA</p> <p>Program scale: State</p> <p>Implementation date: Varies by state</p> <p>Intervention environment: NR</p> <p>Program funding: NR</p> <p>Program details: NR</p> <p>Comparison: Varying levels of the Strength Of Tobacco Control (SOTC) index</p>	<p>Study period: 1992/3-2006/7</p> <p>Study population: U.S. adults ages 18+</p>	<p>Current adult smoking prevalence (smoked every day or some days, and had smoked ≥ 100 cigs. in lifetime)</p>			<p>Women: r=-0.30 p=0.03</p> <p>Men: r=-0.21 p=0.14</p>	<p>The relative % changes in smoking prevalence by state were associated with state SOTC indices. States with stronger indices typically showed larger decreases in smoking prevalence. However, this correlation was only statistically significant among women (not men).</p>

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<p>Author, Year: Levy, 2005</p> <p>Study design: Panel</p> <p>Quality of execution: Fair</p>	<p>Location: USA, CA, MA, AZ, OR, UT</p> <p>Program scale: State</p> <p>Implementation date: varies by state</p> <p>Intervention environment: vary by state</p> <p>Program funding: NR</p> <p>Program details: Media campaigns used as proxy for comprehensive tobacco control programs; in CA,MA, AZ, OR, and UT</p> <p>Comparison: 5 states with adult-focused media campaign vs those with no or youth-focused media campaign</p>	<p>Study period: Sep. 1998 – May 1999</p> <p>Study population: Adults ages 25+ who smoked daily 1 year prior to the survey in the 5 states with media campaigns; (From Tobacco Use Supplement to the Current Population Survey)</p>	<p>Quit attempts Cessation for ≥ 1 day because attempting to quit</p> <p>Sustained abstinence (3+months among current non-smokers who had quit attempt >3 months before interview)</p>	<p>No campaign: 34.39%</p> <p>No campaign: 11.39%</p>	<p>Media Campaign: 37.99%</p> <p>Media Campaign: 15.04%</p>	<p>Absolute Difference: 3.6 pct pts</p> <p>Absolute Difference: 3.65 pct pts</p>	<p>States with adult-focused media campaigns had a greater rate of quit attempts vs. states without adult-focused campaigns or with no campaigns</p> <p>States with adult-focused media campaigns had a greater rate of cessation vs. states without adult-focused campaigns or with no campaigns</p>

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<p>Author, Year: Marlow, 2006</p> <p>Study design: Panel</p> <p>Quality of execution: Fair</p>	<p>Location: 50 states, USA</p> <p>Program scale: State</p> <p>Implementation date: Varies, depending on the state</p> <p>Intervention environment: Most states have tax policies; States have considerably varied smoke-free policies</p> <p>Program funding: Several sources of funding: MSA funds to states States can fund tobacco control program through general revenues or revenues from excise tax increases; Federal funding, such as CDC OSH National Tobacco Control program; Private funding from organizations such as Robert Wood Johnson Foundation and the American Medical Association Per capita funding in 2001: \$3.73; range: \$0.10-20.82 Per capita funding in 2002: \$4.00; range: \$0.33-19.16</p> <p>Program details: NR</p> <p>Comparison: Across 50 states; Four states with longer spending had additional analysis: AZ, CA, MA, OR</p>	<p>Study period: Consumption: 2001-2002; Youth smoking: 2002;</p> <p>Study population: Consumption: smokers in states; Youth smoking: 9-12th grade students</p>	<p>Tobacco consumption: Per Capita cigarette sales in association with tobacco control funding</p> <p>Youth smoking prevalence: students from 9th to 12th grades who smoked in past 30 days preceding the survey</p>			<p>50 states: Elasticity: 0.002; NS</p> <p>4 states with comprehensive program (AZ, CA, MA, OR): Elasticity: -0.052; p<0.01</p> <p>Regression coefficient: 0.22* Elasticity: 0.020</p> <p>*Data from model that used current + one lagged year expenditures</p>	<p>Per capita tobacco control funding for all 50 states had no significant relationship with cigarette sales</p> <p>Per capita tobacco control in 4 states with comprehensive tobacco control programs had negative and significant impact on cigarette sales</p> <p>Tobacco control spending was not associated with lowered youth smoking</p>

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<p>Author, Year: Morley, 2013</p> <p>Study design: Cross-sectional</p> <p>Quality of execution: Fair</p> <p>No description of study population or intervention characteristics</p> <p>Cross-sectional study with only 1 year of data used; difficult to assess relationship between program funding and impact on tobacco use</p> <p>Funding for all tobacco control activities used as proxy for spending on comprehensive tobacco control programs; not all states have such programs</p>	<p>Location: 50 states, U.S.</p> <p>Program scale: Mostly state, vary by location</p> <p>Implementation date: Vary by location</p> <p>Intervention environment: NR</p> <p>Program funding: NR</p> <p>Program details: NR</p> <p>Comparison: 50 states in U.S. compared with each other</p>	<p>Study period: 2010</p> <p>Study population: US adults living in states that had tobacco control funding who responded to the BRFSS survey</p>	<p>Adult smoking prevalence in relation to:</p> <p>Tobacco funding, in millions</p> <p>% of CDC-recommended funding level in place</p>	<p>N/A</p>	<p>N/A</p>	<p>Adult smoking prevalence in relation to tobacco control raw spending (in millions) Beta-coefficient: -.035 (P= 0.176) For every million dollar spent on tobacco control, there is a corresponding 0.035% drop in adult smoking prevalence</p> <p>% of CDC-recommended funding level in place Beta-coefficient: .012(P=0.620)</p>	<p>There was no statistically significant association between raw tobacco control spending and adult smoking prevalence, nor is the level of CDC-recommended funding present</p> <p>The percentage of state funding for tobacco control, relative to CDC-recommended level for each state, was strongly and negatively influenced by tobacco manufacturing, with tobacco-manufacturing states spending nearly 30 percentage points less of the CDC-recommended amount than non-tobacco-manufacturing states</p>

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<p>Author, Year: Rhoads, 2012</p> <p>Study design: Panel Study</p> <p>Quality of execution: Fair</p>	<p>Location: 50 States, USA</p> <p>Program scale: State</p> <p>Implementation date: Varies by state; First program in CA started in 1989;</p> <p>Intervention environment: NR</p> <p>Program funding: CA from 1988 increase in cigarette excise tax; Other states in 1990s, used excise tax, MSA, ASSIST, IMPACT, CDC's National Tobacco Control Program (NTCP), private funding (RWJF, ALF); CDC Best Practices recommended funding level: average of \$12.34 per capita; North Dakota met the standard; 9 states funded at 50-99% level; 31 states and D.C. less than 25% level;</p> <p>Program details: NR</p> <p>Comparison: Funding levels in states correlated to smoking behaviors in states; 50 states and D.C. compared to each other;</p>	<p>Study period: 1991-2006</p> <p>Study population: BRFSS eligibility: civilian, non-institutionalized adult population, older than 18 years; For study, all data from 50 states and D.C. were analyzed; Sample from 1991-2006: 2,491,805 adults;</p> <p>Male: 49.4%; Age, mean: 44.4 Education: Less than HS, 4.5% Some HS, 7.9% HS grad, 31.3% Some college, 27.3% College grad, 28.9% HH income: Highest income level: 19.0% Race/ethnicity: Hispanic, 10.7% White, 75.3% Black, 9.6% Asian or Pacific Islander, 2.7% American Indian or Alaskan Native, 1.0% Other, 0.7%</p>	<p>Prevalence, adults: Current smoker \geq 100 cigarettes lifetime, currently smoking</p> <p>Consumption: average consumption per smoking day by smokers; Self-reported average number of daily cigarettes consumed by smokers on days when they smoked</p>	<p>N/A</p>	<p>N/A</p>	<p>Prevalence: Regression coefficient: - 0.006, $p < 0.01^{**}$ Elasticity: -0.009</p> <p>Consumption: Regression coefficient: - 0.0135*, $p < .01$ Regression coefficient: - 0.0145**, $p < .01$</p> <p>*Cumulative funding, 10% discount for past years' funding **Cumulative funding, 25% discount for past years' funding</p>	<p>State tobacco control expenditures have a consistently negative and statistically significant effect on smoking prevalence, when either current or cumulative tobacco control expenditures were used as independent variable</p> <p>Cumulative comprehensive tobacco control expenditures have a negative effect on average cigarette consumption</p>

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<p>Author, Year: Tauras, 2005</p> <p>Study design: Panel Study</p> <p>Quality of execution: Fair</p>	<p>Location: 50 states, USA</p> <p>Program scale: State-wide</p> <p>Implementation date: Various, CA started 1989</p> <p>Intervention environment: NR</p> <p>Program funding: Tobacco excise tax; MSA; ASSIST and IMPACT, both replaced by CDC funded National Tobacco Control Program; RWJF's SmokeLess States program;</p> <p>In 2002, funding estimated to be \$861.9mil, or \$3.16 per capita;</p> <p>Program details: States the 4 goals from CDC Best Practices; and the components</p> <p>Comparison: State tobacco control expenditures compared across all states in U.S.;</p>	<p>Study period: 1991-2000</p> <p>Study population: Youth -8th, 10th, and 12th grade Monitoring the Future criteria: Nationally representative surveys of 15,000 to 19,000 high school seniors each year since 1975 Similar numbers of 8th and 10th graders since 1991</p> <p>Age, mean: 15.5 Grade 8, 36.9% Grade 10, 31.95% Gender: Male 48.6%</p> <p>Race: African American, 12.5% Hispanic, 10.1% Asian American, 3.2% Native American, 1.99% Other, 4.8%</p> <p>Income: Real earned income per week: \$19.6 Real income other sources per week: \$9.7</p>	<p>Prevalence: smoking among 8th, 10th, and 12th graders; youth who smoked cigarettes in the past 30 days;</p> <p>Consumption: average monthly cigarette consumption among smokers;</p>			<p>Compared to no funding, mean levels of funding reducing smoking prevalence by 0.46 pct pts</p> <p>If funding increases to minimum level recommended by CDC, smoking prevalence would reduce by 3.52 pct pts</p> <p>Regression coefficient: - 0.0339</p> <p>(Note: Authors used annual inflation adjusted per capita expenditures in regression models)</p>	<p>Increased tobacco control funding to match the CDC guidelines would have a substantial impact on youth smoking prevalence.</p> <p>After controlling for the other potential determinants of youth cigarette demand, real per capita tobacco control expenditures had a negative and statistically significant relationship with the amount smoked by smokers.</p>

Non-US Studies

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Currie, 2013</p> <p>Study design: Interrupted time-series</p> <p>Quality of execution: Fair</p>	<p>Location: Ireland</p> <p>Program scale: National</p> <p>Implementation date: Official start date NR; components reported in the study were implemented from 1998 to at least 2008</p> <p>Intervention environment: Smoke-free policies, tobacco taxes, tobacco marketing/ advertising bans, increased strength of health warnings, ban on tobacco sales to minors</p> <p>Program funding: NR</p> <p>Program details: Quitline, Mass-media campaign, increased availability of smoking cessation services</p> <p>Comparison: Before-after for SLÁN survey, post-only for OTS Survey</p>	<p>Study period: 1998-2010</p> <p>Study population: SLÁN: nationally representative random sample of Irish population, ages 18+ years</p> <p>OTS surveys were monthly telephone interviews with 1000 persons (but 2007 survey was in-person)</p>	<p>Smoking prevalence (≥ 1 cigarette smoked in past week for OTS surveys)</p> <p>Current smokers smoked cigarettes occasionally (< 1/day) or regularly for 1998 and 2002 SLÁN surveys; for 2007 survey, current smokers smoked ≥ 100 cigarettes in lifetime and now smoke every day or some days</p>	<p>SLÁN survey Males 1998: 34.1%</p> <p>Females 1998: 32.5%</p> <p>OTS Survey, June 2003: 30.0%</p>	<p>SLÁN survey Males 2007: 30.6%</p> <p>Females 2007: 26.5%</p> <p>OTS Survey, March 2008 23.6%</p>	<p>Absolute difference -3.5 pct. pts.</p> <p>-6.0 pct. pts.</p> <p>-6.4 pct. pts.</p>	<p>Overall decrease in smoking prevalence in both surveys, but not always consistently</p>

Comprehensive Tobacco Control Programs: Effectiveness Review

Study Info	Intervention Characteristics	Population Characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author, Year: Germain 2012;</p> <p>Study design: Least;</p> <p>Quality of execution: Good;</p>	<p>Location: Victoria, Australia;</p> <p>Program scale: State, mixed in with national program;</p> <p>Implementation date: Started in 1985;</p> <p>Intervention environment:</p> <p>Program funding: Tobacco Act (Vic) 1987: tobacco tax revenue began to be used for tobacco control;</p> <p>Program details: Quit Victoria: founded in 1985;</p> <p>Mass-media, Vic: began around the time of establishment in conjunction with introduction of telephone support service Quitline;</p> <p>Mass-media, national: Every Cigarette is Doing You Damage; came to Vic screen b/w 97 and 00;</p> <p>Quitline;</p> <p>Comparison: Before-after;</p>	<p>Study period: 1984 to 2008;</p> <p>Study population: Randomly sampled Victorian adults;</p> <p>Sample sizes ranged from low of 1151 (1984) to a high of 4494 (2008);</p>	<p>Adult smoking prevalence</p> <p>Cessation: quit ratio</p>	<p>1984</p> <p>Overall: 33.2%</p> <p>Males: 37.1%</p> <p>Females: 29.6%</p> <p>Low SES: 38.1%</p> <p>Mid SES: 29.3%</p> <p>High SES: 27.0%</p> <p>Overall: 39.8%</p> <p>Males: 43.4%</p> <p>Females: 34.9%</p> <p>Low SES: 34.1%</p> <p>Mid SES: 46.2%</p> <p>High SES: 46.4%</p>	<p>2008</p> <p>15.5%</p> <p>17.1%</p> <p>14.0%</p> <p>19.2%</p> <p>5.9%</p> <p>11.0%</p> <p>63.8%</p> <p>63.3%</p> <p>64.4%</p> <p>59.7%</p> <p>63.2%</p> <p>69.7%</p>	<p>Absolute change:</p> <p>-17.7 pct pts</p> <p>-20.0 pct pts</p> <p>-15.6 pct pts</p> <p>-18.9 pct pts</p> <p>-23.4 pct pts</p> <p>-16.0 pct pts</p> <p>24.0 pct pts</p> <p>19.9 pct pts</p> <p>29.5 pct pts</p> <p>25.6 pct pts</p> <p>17.0 pct pts</p> <p>23.3 pct pts</p>	<p>The likelihood a Victorian adult was a regular smoker in 1984 was almost three times that of someone in 2008; driven by both an increase in the proportion of ever smokers who have successfully quit, and an overall decline in those who have ever smoked;</p> <p>Smoking prevalence declined significantly across all socioeconomic groups over the past 25 years, although at a greater rate among the higher SES group; lower SES group had the greatest rate of decline in ever smoking over this period compared to more advantaged groups</p>

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<p>Author, Year: Launay, 2010</p> <p>Study design: Before-After</p> <p>Quality of execution: Fair</p> <p>Survey mailed to twice the number of people for the second wave, hence sample size larger</p> <p>Measurement method for major depressive episode (MDE) differed between waves</p> <p>Substantial differences in education levels among subjects between the first and second waves</p>	<p>Location: France</p> <p>Program scale: National</p> <p>Implementation date: 1999-2008</p> <p>Intervention environment: Smoke free laws in public places and school grounds; Cigarettes price increases; Tobacco advertising ban</p> <p>Program funding: NR</p> <p>Program details: Funding for NGOs, strong mass media campaigns, internal regulations adopted on Smoke free public places to protect children, teenagers, students and school teachers, training program for general practitioners and pharmacists, financial support to implement smoking cessation services, Sale of NRT over the counter in pharmacies, development of cessation services and adoption of more prominent warnings</p> <p>Comparison: Before-After</p>	<p>Study period: 1999 and 2005</p> <p>Study population: Teachers aged 25-59 who were actively teaching when the survey was conducted</p>	<p>Smoking prevalence: Current smokers: smoked regularly or occasionally</p> <p>Ex-smokers: declared not currently smoking but smoked at some point in life</p> <p>Daily tobacco consumption for smokers, (pipe, cigar, cigarillos converted to cigarettes/day)</p>	<p>1999 Males: 25.7%</p> <p>Females: 20.0%</p> <p>Male ex-smokers, >5yrs: 29.9%</p> <p><5yrs: 5.8%</p> <p>Female ex-smokers, >5yrs: 23.3%</p> <p><5yrs: 4.0%</p> <p>Males: 1999: daily tobacco consumption: ≤10: 152 11-20: 109 >20: 58</p> <p>Females: 1999: daily tobacco consumption: ≤10: 185 11-20: 113 >20: 32</p>	<p>2005 Males: 18.2%</p> <p>Females: 16.5%</p> <p>Male ex-smokers, >5yrs: 21.3%</p> <p><5yrs: 8.4%</p> <p>Female ex-smokers, >5yrs: 18.9%</p> <p><5yrs: 6.4%</p> <p>Males: 2005: daily tobacco consumption: ≤10: 97 11-20: 61 >20: 10</p> <p>Females: 2005: daily tobacco consumption: ≤10: 202 11-20: 107 >20: 13</p>	<p>Absolute change: -7.5pct pts</p> <p>-3.5 pct pts</p> <p>-8.6 pct pts</p> <p>+2.6 pct pts</p> <p>-4.4 pct pts</p> <p>+2.4 pct pts</p> <p>Relative change: ≤10: -36.2% 11-20: -44.0% >20: -82.0%</p> <p>Relative difference: ≤10: +9.2% 11-20: -5.3% >20: -59.4%</p>	<p>Smoking prevalence and tobacco consumption among male and female teachers decreased over the study period, There was also an increase in the number of ex-smokers in more recent years.</p>

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<p>Author, Year: Reid, 2010</p> <p>Study design: Interrupted time-series</p> <p>Quality of execution: Good</p> <p>No description of program</p>	<p>Location: Canada</p> <p>Program scale: National</p> <p>Implementation date: National strategy established in 1999; not clear on timing of policies and each component; in 2001 \$560M was allocated for the first five years of the Federal Tobacco Control Strategy (FTCS)</p> <p>Intervention environment: Tax increase; smoke-free policies; Tobacco Act (1997) implemented to regulate manufacturing, sale, labelling and promotion of tobacco products in Canada</p> <p>Program funding: Written into national strategy: develop policies to provide adequate funding for tobacco control initiatives; in 2001 \$560M was allocated for the first five years of the Federal Tobacco Control Strategy (FTCS)</p> <p>Program details: 4 goals: prevention; cessation; protection from SHS; de-normalization</p> <p>Media; cessation (quitline formed later); youth oriented programs through settings such as schools, youth groups, etc.</p> <p>Comparison: Canadian data; people with different education levels were compared with each other</p>	<p>Study period: 1999-2006</p> <p>Study population: Nationally representative samples of Canadians aged 15 and over; excluded residents of the territories and institutions; equal number of respondents in each province surveyed; youth 15 to 24 years of age over-sampled to comprise half of the respondents; analyses included participants over 25 years of age; n=86,971</p>	<p>Smoking prevalence</p> <p>Odds of being a smoker, stratified by education level, OR (95% CI)</p> <p>Daily average # of cigarettes smoked</p> <p>Cessation: Percentage of ever-smokers who quit by time of survey (number of former smokers divided by number of current and former smokers at a given point in time)</p>	<p>1999 24%</p> <p><Secondary: 2.95 (2.24-3.88)</p> <p>Completed secondary 1.92 (1.49-2.46)</p> <p>Completed college 1.26 (0.94-1.71)</p> <p>Completed university Ref</p> <p>16.4 cigs./ day</p> <p>Education: Less than secondary 52.6%</p> <p>Completed secondary 52.6%</p> <p>Completed college 55.6%</p> <p>Completed university 61.7%</p>	<p>2006 18%</p> <p>3.79 (2.81-5.11)</p> <p>2.62 (2.07-3.31)</p> <p>1.96 (1.48-2.59)</p> <p>Ref</p> <p>13.6 cigs./ day</p> <p>63.7%</p> <p>60.6%</p> <p>62.6%</p> <p>69.4%</p>	<p>Absolute change: -6 pct pts</p> <p>Relative change: -17.1%</p> <p>11.1 pp</p> <p>8.0 pp</p> <p>7.0 pp</p> <p>7.6 pp</p>	<p>Between 1999 and 2006, smoking prevalence and average daily cigarette consumption declined with similar magnitude in all educational groups. Nearly half of all smokers had made a quit attempt lasting at least 24 hours in the past year</p> <p>However, among smokers, those with lower education were more likely to smoke daily, and the least educated consumed 3 to 8 more cigarettes per day, on average, than the most educated.</p>

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<p>Author, Year: Schaap 2008</p> <p>Study design: Panel study</p> <p>Quality of execution: Fair</p>	<p>Location: 18 European countries (see Table 1)</p> <p>Program scale: National</p> <p>Implementation date: Various, depend on country</p> <p>Intervention environment: NR</p> <p>Program funding: NR</p> <p>Program details: Used Tobacco Control Scale, an index rating countries' level of implementation of tobacco control programs in 2004-2005</p> <p>Based on 6 policies described by the World Bank using a 100 point scale for potential impact on national smoking rates: Price (30pts); public place bans (22pts); public information campaign spending (15pts); advertising bans (13pts); health warnings (10pts); treatment (10pts)</p> <p>Comparison: Across 18 European countries</p>	<p>Study period: 2005 (with the Tobacco Control Scale) Survey dates: 1994-2004</p> <p>Study population: Ever-smokers from the 18 participating countries who are 25-59 years old with sample sizes of above 4500 for most countries</p> <p>Samples from National health surveys of the 18 European countries were conducted in or after 2000, except the German and Portuguese surveys</p>	<p>Cessation in association with Tobacco Control Scale in the 18 EU countries</p>			<p>High education group coefficient: 0.65, p=.004</p> <p>Low education group coefficient: 0.57, p=.014</p> <p>Males, coefficient: 0.47, 95%CI 0.19 to 0.75</p> <p>Females, coefficient: 0.45, 95%CI 0.13 to 0.77</p>	<p>For every 10 pts increase in Tobacco Control Score the evidence shows an increase in cessation by 6.5% and 5.7% in groups with high and low education, respectively.</p> <p>For every 10 pts increase in the Tobacco Control Score, there was an increase in cessation among both the male and female cohort</p>

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<p>Author, Year: White, 2008</p> <p>Additional Information on White 2011</p> <p>Study design: Interrupted time series</p> <p>Quality of execution: Fair</p> <p>Population for 16/17 year olds changed due to higher retention rates in high school; unclear if that change has been adequately controlled by the authors</p> <p>National tobacco control expenditure estimated from 02 to 05 using funding for mass media campaigns</p>	<p>Location: Australia</p> <p>Program scale: Phase 1 and 2: state and territory, Phase 3: nation</p> <p>Implementation date: Phase 1: 1984-91; Phase 2: 1993-96; Phase 3: 1997-05;</p> <p>Intervention environment: Phase 1, 84-91: policies to restrict promotion of tobacco products; minimal health warnings on all tobacco products; workplace smoking bans in certain places Phase 2, 92-96: few new policies adopted Phase 3, 97-05: more restrictions on youth access; smoking bans in public spaces; price increase</p> <p>Program funding: Phase 1: peak of \$AUD 0.90 per capita in 1989/90; Phase 2: funding levels fell to a low of \$AUD 0.34 per capita in 1993; Phase 3: funding level increased to \$AUD 0.54 per capita in 1998;</p> <p>Program details: Phase 1: 1984-1991, state-specific tobacco control campaigns; Phase 2: 1992-96, state activities fell due to funding falls; Phase 3: 1997-2005, broad population approach to tobacco control with media campaigns, quitlines</p> <p>Comparison: No comparison</p>	<p>Study period: White 2008: 1987 to 2005; White 2011: 1990 to 2005;</p> <p>Study population: White 2008: Table 1: number of participants each survey year; School retention rate increased from 53% in 1987 to 75% in 2002 and 2005; characteristics of students likely to differ systematically across survey years; White 2011: Table 2 for age, education, and sex;</p>	<p>Tobacco use prevalence: Smoked within past week: 12-17yr olds</p> <p>Tobacco use prevalence stratified by SES; Smoked within past 30 days:</p>	<p>1996: 20%</p> <p>12-15yr olds: Lowest SES, 1996: 23.0%</p> <p>Second SES, 1996: 20.0%</p> <p>Third SES, 1996: 20.0%</p> <p>Highest SES, 1996: 21.0%</p> <p>16-17yr olds: Lowest SES, 1996: 32.0%</p> <p>Second SES, 1996: 33.0%</p> <p>Third SES, 1996: 37.0%</p> <p>Highest SES, 1996: 37.0%</p>	<p>2005: 9%</p> <p>12-15yr olds: Lowest SES, 2005: 11.0%</p> <p>Second SES, 2005: 10.0%</p> <p>Third SES, 2005: 8.0%</p> <p>Highest SES, 2005: 8.0%</p> <p>16-17yr olds: Lowest SES, 2005: 21.0%</p> <p>Second SES, 2005: 22.0%</p> <p>Third SES, 2005: 23.0%</p> <p>Highest SES, 2005: 21.0%</p>	<p>Absolute change: -11 pct pts</p> <p>-12.0 pct pts</p> <p>-10.0 pct pts</p> <p>-12.0 pct pts</p> <p>-13.0 pct pts</p> <p>-11.0 pct pts</p> <p>-11.0 pct pts</p> <p>-14.0 pct pts</p> <p>-16.0 pct pts</p>	<p>There was a significant and substantial reduction in the likelihood of smoking among all SES groups for older and younger students; for younger students the reductions differed by SES with reductions in all smoking behaviors greater for students from higher SES groups</p>