

Reducing Tobacco Use and Secondhand Smoke Exposure: Quitline Interventions

Summary Evidence Table: Mass-Reach Health Communication Interventions to Promote Quitline Use

Author & Year	Location	Targeted Population	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
Study Design	Intervention (content; channel; intensity; placement; targeting; tagging)	Study Population					
Quality of Execution	Comparison	Population characteristics					
<p>Author (Year): Bauer et al. (2006)</p> <p>Study Design: Interrupted time series</p> <p>Quality of Execution (Limitations): Fair (2)</p>	<p>Location: Western NYS, USA</p> <p>Intervention: Ads in local newspaper: - one offering self-help guide; one day ran - one offering self-help guide + cessation aid "Better Quit"; one day ran;</p> <p><u>Channel:</u> newspaper <u>Intensity:</u> Buffalo News reaches 300,000 households <u>Placement:</u> Buffalo news, one ¼ page ad; <u>Tagging:</u> tagged with toll-free NYS QL number</p> <p>Comparisons: 1. No ads vs. ad for guide 2. No ads vs. ad for guide + Better Quit 3. Guide vs. guide + Better Quit</p>	<p>Smokers in NYS;</p> <p>Callers to NYS QL from participating area (Erie or Niagara);</p> <p>Characteristics not reported;</p>	<p>Call volume: calls to NYS Smokers' QL from persons in the counties (Erie & Niagara) where promotions were conducted before, during, and after each promotion;</p>	<p>1wk before ad for guide alone: 7 calls/day</p> <p>Between airing of the 2 ads: 7 calls/day</p>	<p>2day period after airing ad for guide alone: 14 calls/day</p> <p>2 day after airing ad for guide + cessation aid: 27.5 calls/day</p>	<p>Relative percentage change in call volume:</p> <p>1. No ad vs. ad for guide alone: +100%</p> <p>2. No ad vs. ad for guide + cessation aid: +292.9%</p> <p>CI not calculated;</p>	<p>Newspaper ads increased calls to QL</p> <p>More cost-effective when a quitting aid was offered together with self-help materials in generating calls to QL</p>
<p>Author (Year): Bui et al. (2010)</p> <p>Study Design:</p>	<p>Location: Victoria, Australia</p>	<p>AU media efforts targets 18-40yr old smokers;</p>	<p>Call volume: Statistical tests of relationship between media</p>	<p>N/A</p>	<p>Quitline calls were significantly associated with</p>	<p>Narrative results: Quitline calls were significantly associated with</p>	<p>In this model, the total number of Quitline calls were associated with</p>

Author & Year Study Design Quality of Execution	Location Intervention (content; channel; intensity; placement; targeting; tagging) Comparison	Targeted Population Study Population Population characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
Interrupted time series Quality of Execution (Limitations): Fair (4)	Using Australia Quitline Victoria data to model what intervention characteristics impact calls to QL: - Placement (day of the week) - Intensity (measured in TARPs) Intervention details not provided Study is an interrupted time series, but with unclear baseline	Calls to QL Victoria over the study period; Characteristics not reported;	message factors and calls to the quitline Daily total calls to Quitline Victoria Total number of Quit antismoking advertisements on free to air television;		total number of ads; TARPs;	total number of ads; TARPs;	total number of ads, TARPS, and day of the week for ad placement;
Author (Year): Burns et al. (2010) Study Design: Before-after Quality of Execution (Limitations): (3)	Location: Colorado, USA Intervention: Assessed Quitline reach and effectiveness during a Spanish-language media campaign in Colorado <u>Content:</u> developed through focus group with low income Latinos <u>Channel:</u> TV, radio, Latino attended movie theaters <u>Intensity:</u> measured in gross rating points <u>Placement:</u> during key adult viewing times <u>Targeting:</u> Yes	Latino smokers in CO; For call volume: Spanish speaking callers to QL before and during campaign For cessation: random sample of callers responding to survey 7m after initial call; Population characteristics for sampled individuals only: Table1 significant differences among pre- and campaign Latino responders	Call volume: number of Latino callers; Cessation: 6m continuous abstinence at 7m f/u;	Call volume: Pre-intervention: 390 calls/month Cessation: Pre-intervention: 9.6% ITT: 4.2%	Call volume: During intervention: 614 calls/month Cessation: During intervention: 18.8% ITT: 9.5%	Relative percentage change in call volume: +57.4% No CI calculated; Absolute percentage point change in cessation (ITT): +5.3 pct pts; 95%CI: +0.9 to +9.7 pct pts; Relative percentage change in cessation (ITT): +126.2% ; No CI calculated;	"A statewide Spanish-language media campaign increased Quitline reach among younger Spanish-speaking Latinos with low SES while maintaining or improving service completion rates and smoking cessation rates at 7m f/u among this population"

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	<p><u>Tagging:</u> Ad campaign urged audience members to call the Colorado Quitline (unclear if “tagged”)</p> <p>Comparison: Before and during the campaign comparison</p>	<p>for age, sex, education, and insurance status;</p>					
<p>Author (Year): Campbell et al. (2008)</p> <p>Study Design: Interrupted time series</p> <p>Quality of Execution (Limitations): Fair (4)</p>	<p>Location: Montana, USA</p> <p>Intervention: Montana evaluated promotion of an enhanced quitline service benefit—4wks NRT to 6wks NRT; has both why to quit and how to quit messages</p> <p>Channel: Baseline: newspaper Promotion: TV, radio, newspaper</p> <p>Comparison: Before and after the enhanced benefit promotion</p>	<p>Smokers in Montana;</p> <p>For call volume: quitline callers;</p> <p>Characteristics from intake calls: Jan-N06 D-Jun07 Age: 45% 48% >=45yrs >=45yrs</p> <p>Gender: Male 39% 44% Race/Ethnicity: NR SES: NR</p>	<p>Call volume: monthly intake calls between Jan06 to Oct 07 were compared;</p> <p>Cessation: 7 day point prevalent abstinence at 6m f/u;</p>	<p>Call volume: Pre-enhanced: 397 calls/month</p> <p>Cessation (ITT): Pre-enhanced (Jan to Jul 07): 9% of study participants quit;</p>	<p>Call volume: Enhanced: During campaign: 712 calls/month;</p> <p>3 months after campaign: 412 calls/month</p> <p>Cessation (ITT): Enhanced period: 12% of study participants quit;</p>	<p>Relative percentage change in call volume: During campaign: +79.3% 3 months after campaign: +3.78%</p> <p>Absolute percentage point change in cessation (ITT): +3.0 pct pts; 95% CI: +0.6 to +5.4 pct pts;</p> <p>Relative percentage change in cessation: +33.3%;</p>	<p>Paid media promotion of an enhanced benefit for NRT (6wks) was associated with an increase in call volume to the quitline; more men and more callers older than 45yrs contacted QL;</p>
<p>Author (Year): Carroll et al. (2003)</p> <p>Study Design: Other design with concurrent</p>	<p>Location: Sydney, Melbourne, Australia</p> <p>Intervention: To study impact of media intensity, type of ads, and program</p>	<p>Smokers in Australia;</p> <p>Callers to quitline within 1hr of campaign ads and within Sydney and</p>	<p>Call volume: calls from geographic areas of Sydney and Melbourne within 1hr of</p>	<p>N/A</p>	<p>Call volume: Sydney: 1168 calls per 1020 TARPs;</p>	<p>Narrative results: Combination ad placement (health effects followed by call for help) was more effective</p>	<p>Some evidence that ad type, program placement, and combination ad broadcast may be associated with increased calls to</p>

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comparison group Quality of Execution (Limitations): Fair (3)	placement on calls to quitline <u>Content:</u> 2 types of ads; health effect of tar and damage to smokers' vision; ads that model a smoker calling quitline <u>Channel:</u> TV <u>Intensity:</u> measured in TARPs <u>Placement:</u> Australia TV programs divided into 12 categories <u>Tagging:</u> Yes Comparison: Sydney to Melbourne	Melbourne metro broadcast areas; Characteristics not reported;	each ad's airing;		Melbourne: 601 calls per 920 TARPs;	(p=0.01 in Sydney; NS in Melbourne); Light entertainment, cultural/informative, and reality TV programs generated high calls per TARP;	the quitline in Australia;
Author (Year): CDC et al. (2012) Study Design: Time series Quality of Execution (Limitations): Fair (2) No description of study population No statistical tests	Location: National, USA Intervention: TIPS campaign from CDC <u>Content:</u> based on formative research and testing; former smokers talking about experiences in living with smoking-related diseases <u>Channel:</u> TV(cable), radio, online media, billboards, movie theaters, transit venues, print	Adult smokers 18-54yrs old in US; Callers to quitline or visitors to National Cancer Institute website before, during, and immediately after media campaign; Characteristics not reported;	Call volume: calls to quitline before, during, and after campaign compared with data from corresponding weeks in 2011; not unique calls; Website visits: unique visits to cessation website;	N/R	Call volume: 207,519 additional calls; Website visits: 510,571 additional unique visitors;	Relative percentage change in call volume: +132% Relative percentage change in website visits: +428% No CI calculated;	An evidence-based national tobacco education media campaign with adequate reach and frequency can lead to substantial increases in calls to a national portal for state quitlines and unique visitors to a cessation website; Results suggest that smokers are not "saturated" by media campaigns or other health

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	<p><u>Intensity:</u> intended to reach 87% of US adults 18-54 average of 18 times each</p> <p><u>Tagging:</u> Yes; both phone number and website</p> <p>Comparison: campaign period in 2012 compared to same time period in 2011</p>						<p>information to the point that they no longer respond to tobacco education campaigns;</p>
<p>Author (Year): Cotter et a. (2008)</p> <p>Study Design: Interrupted time series</p> <p>Quality of Execution (Limitations): Fair (4)</p>	<p>Location: New South Wales, Australia</p> <p>Intervention: Anti-tobacco media campaigns in NSW, AU in 2006, and their impact on calls to QL</p> <p><u>Content:</u> why to quit; description and promotion of quitline services</p> <p><u>Channel:</u> TV, radio, newspaper, outdoor, cinema</p> <p><u>Intensity:</u> measured in TARP</p> <p><u>Targeting:</u> yes</p> <p><u>Tagging:</u> yes</p> <p>Comparison: Before and after the promotion</p>	<p>Quitline promotion ads targeting 18-24yr olds;</p> <p>Callers to quitline over study period;</p> <p>Characteristics not reported;</p>	<p>Call volume: successful calls to quitline /total TARP from all active campaigns at a given time;</p>	<p>N/A</p>	<p>N/A</p>	<p>Narrative results: from April – Dec 06quitline calls highly correlated with TARPs (r=0.88; p<0.001);</p>	<p>A high correlation between weekly QL calls and TARPs from April to Dec 06 during the promotion of QL;</p> <p>Volume of calls in NSW in 2006 influenced by 3 factors: Introduction of graphic warnings featuring the QL number; Public relations activities in May for World No Tobacco Day; TARPs;</p>

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<p>Author (Year): Durkin et al. (2011)</p> <p>Study Design: Interrupted time series</p> <p>Quality of Execution (Limitations): Fair (3)</p>	<p>Location: Victoria, Australia</p> <p>Intervention: Australia has ongoing quitline services and promotions; study period 2006-08 examined to determine the relationship between message content and calls to quitline by groups with higher tobacco use and tobacco-related diseases;</p> <p><u>Content:</u> ads rated by focus groups as emotional or narrative with high or low impact</p> <p><u>Channel:</u> TV</p> <p><u>Intensity:</u> 14 different messages from 06 to 08</p> <p><u>Tagging:</u> yes</p> <p>Comparison: Compared within campaign of different TARP, different ad content, and responses from different SES groups</p>	<p>Smokers in Australia;</p> <p>Callers to quitline over the study period; callers categorized by postal codes into one of the four SES groups for stratified analysis;</p> <p>Characteristics not reported;</p>	<p>Call volume: Comparisons between SES groups; Comparisons based on ad content; Impact of TARP on call volume;</p>	<p>N/A</p>	<p>Call volume: Total calls to QL over 107 weeks: 33719</p> <p>Comparisons between SES groups:</p> <table border="1"> <thead> <tr> <th>SES</th> <th>%Total</th> </tr> </thead> <tbody> <tr> <td>Low</td> <td>18.61</td> </tr> <tr> <td>Mid-low</td> <td>16.19</td> </tr> <tr> <td>Mid-high</td> <td>28.53</td> </tr> <tr> <td>High</td> <td>36.68</td> </tr> </tbody> </table>	SES	%Total	Low	18.61	Mid-low	16.19	Mid-high	28.53	High	36.68	<p>Narrative results: Call volume based on SES: all SES responded to ads (TARPs) by same degree;</p> <p>Call volume based on ad content: higher emotion narrative ad TARPs had strongest relationship with quitline calls;</p> <p>Call volume & TARP: RR=1.07 (95% CI 1.020, 1.122), p=0.005; For every 100 TARPs per week, calls increased by 7%;</p>	<p>Over a period of 107 weeks, quitline calls were modestly related to broadcast anti-smoking ad TARPs;</p> <p>Spots with high emotional, narrative were more effective on calls to the quitline;</p> <p>Relationship between overall TARPs and quitline call rates did not differ by SES group; although there is an over-representation of QL calls from high SES smokers, when the ads were on air, QL calls increased by the same degree across each SES group;</p>
SES	%Total																
Low	18.61																
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<p>Author (Year): Farrelly et al. (2007)</p> <p>Study Design:</p>	<p>Location: New York, USA</p> <p>Intervention: Media promotion in NYS analyzed to evaluate the</p>	<p>Smokers in NYS;</p> <p>Quitline callers in NYS divided by geographic units;</p>	<p>Call volume: Relative effectiveness of media channels on calls to quitline;</p>	<p>N/A</p>	<p>Call volume: Relative effectiveness of media channels expressed in</p>	<p>Narrative results: Call volume: dollar for dollar, TV expenditures generated more calls;</p>	<p>Television, radio, and print media all effectively increased calls to the New York smokers' quitline;</p>										

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<p>Other design with concurrent comparison</p> <p>Quality of Execution (Limitations): Fair (3)</p>	<p>relative effectiveness and cost effectiveness of television, radio, and print advertisements to generate calls to the New York smokers' quitline</p> <p><u>Channel:</u> TV, radio, and newspaper <u>Tagging:</u> TV and print ads, yes; radio ads only had quitline number if message was quitline/cessation</p> <p>Comparison: County x month comparisons across NYS to test relative effectiveness of promotion; 57 counties x 16m = 912 county-month observations</p>	<p>Characteristics not reported;</p>	<p>Monthly media expenditures matched to monthly total county level calls to NYS QL;</p>		<p>regression coefficient: TV 1.36 Radio 0.057 Print 0.028 Elasticity of various media channels based on expenditure: TV 0.151 Radio 0.037 Print 0.022 (For every 10% increase in expenditure on TV, a 1.51% increase in calls)</p>	<p>TV, radio, and print media all effective in generating calls to NYS quitline;</p> <p>Regression coefficient: TV: 1.36; p=0.004 Radio: 0.057; p=0.000 Newspaper: 0.028; p=0.065;</p>	<p>The largest effect was for TV ads;</p> <p>As level of expenditures increases, the positive effect of ads diminishes; by increasing funding for each medium by \$1000 based on current funding levels, radio has the most increase in number of calls;</p>
<p>Author (Year): Farrelly et al. (2011)</p> <p>Study Design: Other design with concurrent comparison (panel study)</p> <p>Quality of Execution</p>	<p>Location: New York, USA</p> <p>Intervention: Media promotion in NYS analyzed to evaluate the relative effectiveness of different ad content in driving calls to NYS QL during study period 2001-2009;</p>	<p>Smokers in NYS;</p> <p>Callers to NYS QL from 2001-09;</p> <p>Characteristics not reported;</p>	<p>Call volume: Per smoker call volume in relation to TARP;</p> <p>Per smoker call in relation to ad themes;</p> <p>Per smoker call in relation to</p>	<p>N/A</p>	<p>Call volume: Results imply that a 100% increase in exposure to advertisements would lead to a 7.1% increase in per smoker call volume;</p> <p>Regression coefficient:</p>	<p>Narrative results: Call volume is positively correlated with total exposure to anti-smoking commercials (p<0.001);</p> <p>Emotional /graphic content produced no statistically significant</p>	<p>Per smoker call volume was positively correlated with total target audience rating points (TARPs);</p> <p>Cessation ads were more effective than SHS ads in promoting quitline call volume;</p>

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(Limitations): Fair (2)	Content: different themes on cessation, SHS, health consequences of smoking; categorized into strong negative emotions only; graphic images only; strong negative emotions and graphic images; and neither <u>Channel:</u> TV <u>Intensity:</u> measured in TARP <u>Tagging:</u> yes Comparison: Differences in call volume by TARPs for media markets in New York State		emotion/graphic content;		Cessation theme: 0.067, p=0.000 SHS theme: 0.033, p=0.000 NS;	differences for calls to quitline;																						
Author (Year): Fellows et al. (2007) Study Design: Before-after Quality of Execution (Limitations): Fair (4)	Location: Oregon, USA Intervention: Quitline was promoted through paid media, then changed to offer of free NRT with earned media; relative effectiveness of 2 strategies For paid media: <u>Content:</u> promotion of quitline <u>Channel:</u> TV, radio <u>Placement:</u> day and evening hours	Smokers in Oregon; Callers to Oregon quitline during Jan-Jun 04 and Jan-Jun 05; Population characteristics (6m f/u survey; Table3): <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;"><u>Pre</u></td> <td style="text-align: center;"><u>Post</u></td> </tr> <tr> <td></td> <td style="text-align: center;">(320)</td> <td style="text-align: center;">(639)</td> </tr> <tr> <td>Age:</td> <td style="text-align: center;">40.9</td> <td style="text-align: center;">49.1</td> </tr> <tr> <td>sig</td> <td></td> <td></td> </tr> <tr> <td>F:</td> <td style="text-align: center;">69.1%</td> <td style="text-align: center;">67.8%</td> </tr> <tr> <td>NS</td> <td></td> <td></td> </tr> <tr> <td>Hispanic:</td> <td></td> <td></td> </tr> </table>		<u>Pre</u>	<u>Post</u>		(320)	(639)	Age:	40.9	49.1	sig			F:	69.1%	67.8%	NS			Hispanic:			Call volume: projected annual registered calls using average monthly call data from Jan-Jun 04 and 05;	Call volume: Pre-initiative, paid media promotion of quitline: 536 calls/month	Call volume: Post-initiative, 3m after introduction of NRT: 1137 calls/month	Narrative results: call volume increased when offering of free NRT replaced media promotion of quitline (no NRT); No CI;	Only considering paid media as a method to promote utilization of quitline, then: -Paid media generated fewer callers than free NRT -The NRT provision/promotion was a good value for obtaining quits
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	<p><u>Tagging</u>: yes; most messages</p> <p>For NRT initiative: 2wk free NRT offered to quitline callers Promotion via press release, media kits for counties, and earned media coverage</p> <p>Comparison: Provision of NRT to quitline caller with earned media vs. paid media</p>	<p>4.4% 3.8%</p> <p>NS Non-white 17.8% 10.2%</p> <p>NS HS or less 53.8% 49.9%</p> <p>NS</p>					
<p>Author (Year): Haviland et al. (2004)</p> <p>Study Design: Before-after</p> <p>Quality of Execution (Limitations): Fair (4)</p>	<p>Location: National, USA</p> <p>Intervention: ALF's Great Start, public education and smoking cessation service program, focused on providing smoking cessation counseling to pregnant women;</p> <p><u>Content:</u> developed through focus group; positive messages <u>Channel:</u> TV, radio media tour, internet, earned media, video <u>Intensity:</u> Dec01-Feb02, 14-15 months with est. 900 GRP per week</p>	<p>Pregnant smokers of low SES aged 18-35 years;</p> <p>Callers to Great Start quitline;</p> <p>Characteristics not reported;</p>	<p>Call volume: calls during TV campaign period vs. calls during non-TV campaign period;</p> <p>Reach: estimated percentage of pregnant smokers reached annually;</p>	<p>Call volume: Non-TV campaign period: 130 calls/month</p>	<p>Call volume: TV campaign period: 622 calls /month</p>	<p>Relative percentage change in call volume: +378% No CI;</p> <p>Reach: 6442 out of 420,000 (1.5%) pregnant smokers called GS quitline;</p>	<p>Calls to the Great Start Quitline were substantially higher during the broadcast media promotion period than in the subsequent study period;</p> <p>Media and services targeted pregnant women; targeted content could elicit calls from intended population</p>

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	<p><u>Targeting</u>: yes <u>Tagging</u>: yes; initial launch all ads tagged</p> <p>Comparison: Paid broadcast period vs. non-paid broadcast period (no or earned media);</p>						
<p>Author (Year): Hurd et al. (2007)</p> <p>Study Design: Before-after</p> <p>Quality of Execution (Limitations): Fair (2)</p>	<p>Location: National, USA</p> <p>Intervention: ABC’s World News Tonight month-long news series “Quit to Living: Fighting Lung Cancer” in Nov 05; promoting national quitline number</p> <p><u>Content</u>: news program focused on effect of smoking on youth; tobacco company practices; and cessation and prevention efforts</p> <p><u>Channel</u>: TV</p> <p><u>Intensity</u>: entire month of Nov 05</p> <p><u>Placement</u>: ABC World News Tonight</p> <p><u>Tagging</u>: yes</p> <p>Comparison: Before, during and after the program</p>	<p>Smokers in US;</p> <p>Callers to national QUIT-NOW number;</p> <p>Characteristics not reported;</p>	<p>Call volume: monthly attempted calls to 800 number and directed to state QL, pre-, during, and post-promotion;</p>	<p>Call volume: Pre-promotion, Oct 05: 9723</p>	<p>Call volume: During promotion, Nov 05: 29942</p>	<p>Relative percentage change in call volume: +208% No CI;</p>	<p>Promotion can have a huge impact on call volume, but result is short lived if not sustained;</p> <p>Impact of the intervention was not consistent across states.</p> <p>Advanced warning to stakeholders, coordinated efforts between federal and state services to increase capacity with call volume increase;</p>

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<p>Author (Year): Miller et al. (2003)</p> <p>Study Design: Call volume: interrupted time series Cessation: before-after</p> <p>Quality of Execution (Limitations): Fair (3)</p>	<p>Location: National, AU</p> <p>Intervention: Beginning June 97, AU national coordinated anti-smoking campaign connecting media and quitline services;</p> <p><u>Content:</u> "Every cigarette is doing you damage"; from Apr98, added how to quit ad</p> <p><u>Channel:</u> TV</p> <p><u>Intensity:</u> intense first 4wk in Jun97; then alternate b/w high and low intensity</p> <p><u>Tagging:</u> yes</p> <p>Comparison: intervention intensity (TARPs); Cessation outcomes based on subset study population responses at different f/u points</p>	<p>Smokers in AU;</p> <p>For call volume, callers to AU quitline;</p> <p>Study population at 3wk f/u: Sex: 53% female Age: 79% 18-40yrs Edu: 58% HS grad;</p>	<p>Call volume: week to week comparison in relation with TARPs;</p>	<p>Call volume: N/A</p>	<p>Call volume: quitline calls strongly correlated with TARPs; $r=0.93$, $p<0.001$;</p>	<p>Narrative results for call volume: quitline calls strongly correlated with TARPs; $r=0.93$; $p<0.001$;</p> <p>For every increase of 100 TARPs, there is a corresponding increase in call volume of 119 calls;</p>	<p>First year of combined operations (media campaign and quitline), quitline calls increased with increasing TARPs; addition of ads that specifically promoted the QL increased calls over and above that predicted;</p>
<p>Author (Year): Miller et al. (2009)</p> <p>Study Design: Interrupted time series</p>	<p>Location: National, AU</p> <p>Intervention: Graphic warning labels on cigarette packs in March 06 accompanied by media promotion; AU</p>	<p>Smokers in AU:</p> <p>Callers to quitline during study period;</p> <p>Characteristics not reported;</p>	<p>Call volume: annual number of callers to AU quitline</p>	<p>Call volume: 2005, 84442 calls /year</p>	<p>Call volume: 2006, 164850 calls/ year</p> <p>2007, 117544 calls/year</p>	<p>Relative percentage change in call volume: 2006, +95.2%</p> <p>2007, +39.2% No CI;</p>	<p>In the "mature" tobacco control market that is AU, introduction of GWS with QL number accompanied by media promotions substantially</p>

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Quality of Execution (Limitations): Fair (1)	government awareness campaign in Feb 06; state and non-government health agencies ran another campaign during May and July 06; <u>Content:</u> warning labels: 30% of front and 90% of back of cigarette packs; messages urging smokers to quit; 14 warning labels in 2 sets, rotating semi-annually; Media: ads linked to warning labels <u>Channel:</u> warning labels, TV <u>Intensity:</u> warning labels on every cigarette pack <u>Placement:</u> cigarette packs <u>Tagging:</u> yes Comparison: Call volume before and after introduction of graphic warning labels						increased calls to QL in a sustained manner;
Author (Year): Mosbaek et al. (2007) Study Design: Interrupted time series	Location: Oregon, USA Intervention: Broadcast media messages on television and radio in the period Nov 1998-March	Smokers in Oregon; Oregon residents calling state quitline; categorized by ad buy (TV or radio) and compared to adult respondents to	Call volume: callers to quitline in response to each ad;	N/A	Call volume: relative comparison between ad buys in Table 1;	Narrative results: Daytime television ads were seven times more cost-effective than evening television ads (p<0.0001),	Placement of TV ads during the day versus the evening can increase ads' effectiveness in generating calls to a quitline;

Author & Year Study Design Quality of Execution	Location Intervention (content; channel; intensity; placement; targeting; tagging) Comparison	Targeted Population Study Population Population characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
Quality of Execution (Limitations): Fair (2)	2002 promoting Oregon quitline; <u>Content:</u> 5 types of messages (i27) <u>Channel:</u> TV, radio <u>Intensity:</u> media buys usually 1-2wks <u>Placement:</u> either exclusively daytime or in evening <u>Tagging:</u> most ads yes; short description of Oregon quitline and phone number Comparison: different ad buys	2000 Oregon BRFSS; Population characteristics: only plan to quit;				and also more cost effective than radio; Most effective advertisements at generating quitline calls were real life testimonials by people who lost family members to tobacco	Among ads that mention quitline, secondhand smoke ads were the least effective at generating calls; Ads do not mention quitline generated few, if any, calls;
Author (Year): Owen et al. (2000) Study Design: Before-after Quality of Execution (Limitations): Fair (3)	Location: National, UK Intervention: Quitline ran by HEA since 1994; media promotion of quitline services 1997-98; impact of this promotion on effective of quitline services; <u>Content:</u> TV spots adopted a hard-hitting testimonial approach; radio and adverts targeted broader audiences with support/encourage; encouraged	Young adults (16-24) in UK; Callers to UK quitline from Dec97 to Mar98; Population characteristics (Table 1): randomly selected QL callers who provided phone number, 730; Sex: Male: 28% Age: 16-24: 7% 25-34: 32% 35-44: 29% 45+: 31%	Call volume: calls to UK quitline during and outside media promotion period; Reach: percentage of UK smokers called quitline Cessation: post-only measure	Call volume: No media promotion, 8536 calls/month	Call volume: Media promotion, 63933 calls/month	Relative percentage change in call volume: +649.0% No CI; Reach: estimated 4.2% of total adult smokers in UK called quitline;	The annual HEA media campaign (3m) promoting tobacco use cessation and the quitline is associated with a substantial increase in calls to the helpline; Tobacco users who call during the media promotion campaign period appear to have success in quitting;

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	use of the national quitline <u>Channel:</u> TV, radio, advertorials in women’s magazines <u>Targeting:</u> yes <u>Tagging:</u> yes Comparison: Call volume before and after media promotion	SES: Non-manual: 34% Manual/unemployed: 63%					60% of quitline callers identified advertising as source of quitline awareness;
Author (Year): Schillo et al. (2011) Study Design: Interrupted time series Quality of Execution (Limitations): Fair (3)	Location: Minnesota, USA Intervention: Assessing the relation between mass media campaigns and service volume for a statewide tobacco cessation quitline and stand-alone web-based cessation program, after controlling for other external and earned media events; <u>Content:</u> combining how to quit and why to quit messages <u>Channel:</u> TV, radio, print, internet, out of home ads, other <u>Intensity:</u> measured in TRPs	Smokers in MN; Smokers who called MNQL or registered with quitplan.com from Jul05 to Mar08; Characteristics not reported;	Call volume: weekly calls to quitline; weekly registrations to a web-based cessation program;	N/A	N/A	Narrative results on call volume: For weekly quitline calls, positive relationship between weekly TRPs and quitline calls; Online ads related to cessation campaign and print ads associated with SHS campaign were positively related to weekly calls to QL;	Significant, positive relationship between overall ads levels and QL call volumes and web cessation program registration; broadcast ads had a greater impact on registrations for the web program than calls to quitline; An increase in web registration also associated with an increase in QL calls the following week;

Author & Year Study Design Quality of Execution	Location Intervention (content; channel; intensity; placement; targeting; tagging) Comparison	Targeted Population Study Population Population characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
	<p>Placement: for out of home placements, bus sides, billboards, mall ads Tagging: yes</p> <p>Comparison: Weekly call volume and registration to web-based cessation program in relation to TRPs</p>						
<p>Author (Year): Siahpush et al. (2007)</p> <p>Study Design: Simple time series</p> <p>Quality of Execution (Limitations): Fair (3)</p>	<p>Location: Victoria, AU</p> <p>Intervention: QL Victoria established in 1980s, mass media campaigns since early 1980s; call volume from low SES groups in relation to TARPs examined from Jan 2001 to March 2004;</p> <p><u>Content:</u> mainly why to quit, with 1 ad focusing on tobacco company behavior <u>Channel:</u> TV <u>Placement:</u> around TV programs more likely to be watched by lower SES groups <u>Targeting:</u> yes <u>Tagging:</u> yes</p> <p>Stratified based on SES</p>	<p>Smokers in Victoria, AU, with a focus on lower SES smokers;</p> <p>Callers to Victoria QL who requested self-help materials, provided identifiable postcodes, and >=18yr;</p> <p>Characteristics not reported;</p>	<p>Call volume: Weekly call volume in relation to weekly TARPs; TARPs divided into: no; medium (1-161), and high (162-748);</p>	<p>N/A</p>	<p>N/A</p>	<p>Narrative results on call volume: Call volume in relation to TARPs: Higher TARPs correspond closely with higher call volume;</p> <p>Trend in calls similar across SES; no interaction between TARPs, SES on their effect on call volume increase;</p>	<p>Call volume lower in lower SES; however, amount of increase in the number of QL calls as a response to a given increase in ads volume was the same across SES;</p>

Author & Year Study Design Quality of Execution	Location Intervention (content; channel; intensity; placement; targeting; tagging) Comparison	Targeted Population Study Population Population characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
<p>Author (Year): Wetter et al. (2007)</p> <p>Study Design: Before-after</p> <p>Quality of Execution (Limitations): Good (1)</p> <p>No statistical analysis done for the call volume outcome</p>	<p>Location: Texas, USA</p> <p>Intervention: Using paid media to advertise the existing Spanish-language smoking cessation services offered by CIS;</p> <p><u>Content:</u> to increase awareness of the Spanish-language cessation services offered by CIS;</p> <p><u>Channel:</u> radio (Spanish stations only), newspapers (both English and Spanish), TV (Spanish stations only), direct mailing to HH with Spanish last names</p> <p><u>Placement:</u> mostly on Spanish stations only</p> <p><u>Targeting:</u> yes</p> <p><u>Tagging:</u> yes</p> <p>Comparison: Pre- and post-intervention Spanish smokers who call the CIS line</p>	<p>Spanish speaking smokers;</p> <p>Current smokers >= 18yrs who live in TX, and called NCI's South Central office to request cessation help in Spanish;</p> <p>Characteristics (subset callers consenting for f/u study): Sex: 55.2% male; Age: 41.1 % MX origin: 66.7% HH income <20000: 55.5% Employed: 50.0% No Insurance: 76.8% Edu: average 10.9yrs</p>	<p>Call volume: Spanish speaking smokers who called NCI CIS South Central office;</p>	<p>Call volume: 7 calls in 18mon, 0.39calls/month</p>	<p>Call volume: 355 calls in 20mon, 17.8 calls/month</p>	<p>Relative percentage change in call volume: +4464% No CI;</p>	<p>Successful in increasing the reach of the NCI's CIS Spanish-language; increasing awareness of available resources can increase the reach of such programs into vulnerable and underserved groups and thereby increase public health impact;</p>
<p>Author (Year): Willemsen et al. (2002)</p> <p>Study Design:</p>	<p>Location: The Netherlands</p> <p>Intervention: On May 1st 2002, health warning</p>	<p>Smokers in the Netherlands;</p> <p>Callers to quitline;</p>	<p>Call volume: calls to the Netherlands quitline per week</p>	<p>N/A</p>	<p>Call volume: 3.5 times increase</p>	<p>Relative percentage change in call volume: +350% No CI;</p>	<p>By attaching QL number to cigarette packages, the Netherland QL received more</p>

Author & Year	Location	Targeted Population	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
Study Design	Intervention (content; channel; intensity; placement; targeting; tagging)	Study Population					
Quality of Execution	Comparison	Population characteristics					
Before-after Quality of Execution (Limitations): Fair (3)	<p>labels on cigarette packaging came into effect in the Netherlands, with number for the Dutch quitline;</p> <p><u>Content:</u> 1 of 2 health warnings front of pack, 30% of surface; 1 of 14 messages "Ask for help with smoking cessation" on back of pack with Dutch quitline number, website <u>Channel:</u> health warning labels <u>Intensity:</u> 1 of 14 packs <u>Placement:</u> cigarette packs <u>Tagging:</u> 1 of 14 health warning labels</p> <p>Comparison: Call volume before and after introduction of warning labels</p>	<p>Prior to warning signs, typical caller from middle SES groups prepared to quit; after warning signs, callers have broader background, from lower SES who are uncertain whether they are ready to quit;</p>					<p>callers from broader backgrounds; number of callers stabilized to 3.5x the rate prior to the implementation of the warning signs;</p>
Author (Year): Wilson et al. (2005)	Location: National, NZ	25-44yrsold Maori, in the 3 most deprived of 6 SES groups;	Call volume: # of calls by Maori to QL within 1hr of each TVC being shown;	N/A	Call volume: Relatively intense 6 campaign months (over 480 TARPs/month): 866 per month registered callers;	Narrative results on call volume: more intense campaign months generated more calls to quitline;	TV ad campaigns successful in generating calls to national QL from indigenous New Zealanders; campaigns tagged with QL number more effective in generating calls; ads with "why to
Study Design: Interrupted time series	Intervention: Media campaign aimed to encourage Māori smokers to call QL;	Callers to QL within one hour of each ad, with ethnicity data reported;	Reach: percentage of Maori smokers registered with			Reach: estimated 8.2% of all Maori adult smokers;	
Quality of Execution	<u>Content:</u> personal testimonials, adopted from AU ads; some						

Author & Year Study Design Quality of Execution	Location Intervention (content; channel; intensity; placement; targeting; tagging) Comparison	Targeted Population Study Population Population characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
(Limitations): Fair (4)	adopted for Maori audience <u>Channel:</u> TV <u>Intensity:</u> measured in TARP; 6 campaign months most intense, with >480 TARPs/ month <u>Placement:</u> both during and outside QL operating hours <u>Targeting:</u> yes <u>Tagging:</u> some were tagged Comparison: Comparison of different intervention characteristics impact on call volume;	Characteristics not reported;	QL over a 2-year period;		Other 18 months: 735 per month registered callers; 15.2% increase; Reach: Over 2-year time period: 15,486 Maori smokers registered, 21.3% of all new registrations;		quit” and “how to quit” component most effective;
Author (Year): Wilson et al. (2010) Study Design: Time series Quality of Execution (Limitations): Fair (3)	Location: National, NZ Intervention: Graphic warning labels on cigarette packs were introduced in NZ on 2/28/08 and retailers were given 6m to comply; <u>Content:</u> graphic warning labels cover 30% of front of the package; warning messages in both English and Maori on the back cover 90%, with	Smokers in NZ; Callers to quitline for new registration during study period: Li 2009: 6m before and 6m after introduction of graphic warning labels; Wilson 2010a,b: March 07 to Feb 10; Characteristics not reported;	Call volume: new registration with quitline during the study period; Info source: percentage of new registrants citing tobacco packaging as source of information;	Call volume: Li 09: 6m before introduction of GWS, 1517 calls/ month Wilson 10: Mar07 to Feb08, 19558 calls/year Info source: Wilson 10: 7.5% of 19558 callers = 1467;	Call volume: Li 09: 6m after introduction of GWS, 1729 calls/ month Wilson 10: Mar08-Feb09, 20152 calls/year; Mar09-Feb10, 18309 calls /year; Info source: Wilson 10: Mar08-Feb09, 26.4% of	Relative percentage change in call volume: Li 09: 6m f/u, +14.0% Wilson 10: 1yr f/u, +3.0% 2yr f/u, -6.4% Info source: Wilson 10: 1yr f/u, 262.4% 2yr f/u, 185.8% No CI;	Introduction of graphic warning labels promoted calls to quitline in the short run; effect diminished with longer follow up; Percentage of new QL registrants citing tobacco packaging as source of information increased;

Author & Year Study Design Quality of Execution	Location Intervention (content; channel; intensity; placement; targeting; tagging) Comparison	Targeted Population Study Population Population characteristics	Effect measure	Reported baseline	Reported effect	Value used in summary [95%CI]	Summary
	supportive cessation messages <u>Channel:</u> warning labels <u>Intensity:</u> all cigarette packs in NZ should use graphic warning labels 6m after introduction <u>Placement:</u> cigarette packs <u>Tagging:</u> yes Comparison: Before and after introduction comparison of call volume				20152 callers = 5320 Mar09-Feb10, 22.9% of 18309 callers = 4193;		

Abbreviations

Ctrl, control
 Intv, intervention
 Mos, months
 NRT, nicotine replacement therapy
 OR, odds ratio
 pct pts, percentage points
 SES, socioeconomic status