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March 18, 2003

Mr. Chair and members of the committee,

I am Greg Brown, owner and operator of Buenos Grill, which is located at 3892 Mayberry Drive in Reno, Nevada. I am speaking in favor of AB 96.

Buenos Grill is a smoke free restaurant and has been smoke free since its opening. I choose to make Buenos Grill smoke-free because of my concern for the health of my customers, my employees and my family. Also, smoke free dining makes the food taste better. I want my food to be the highest quality, my employees safe and the dining experience as comfortable as possible for my patrons.

I urge you to pass AB 96 which incorporates a statewide ban on smoking in restaurants, not only for the health of customers and restaurant workers, but for the health of the restaurant industry. The most effective method to address tobacco use in restaurants is to have a statewide ban.

If we have a statewide ban the following benefits are clear:

- Restaurant patrons will continue to eat at restaurants. The 27% of the population that smoke will continue eating at restaurants if we have a statewide restaurant smoking ban. Tobacco and hospitality industry's' claims that business will drop if a statewide ban is implemented have not come true.

- A statewide ban levels the playing field for restaurants giving no advantage or disadvantage to any restaurants regarding the smoking or non-smoking rules. This is preferred versus the situation where one county enacts restaurant smoking bans that potentially push some smoking business to the neighboring county that allows smoking.

- Restaurant patrons would be clear about the rules of restaurant smoking. As in other states where there is a statewide ban, it becomes well known if patrons can smoke or not in restaurants. Everyone now knows that smoking is not allowed in restaurants throughout California.

- With a statewide ban on smoking, restaurants that currently allow smoking stand to gain more customers from the non-smoking population.

- Scientific studies show that the restaurant industry is not economically hurt by a statewide ban. In some cases, it may actually improve business. I refer to the studies provided to the committee.

- A statewide ban will protect the health of all restaurant customers and employees in the restaurant industry who are exposed to second hand smoke

their entire workday. These workers do not have the ability to avoid second hand tobacco smoke.

I realize you have a difficult job weighing all the information presented by individuals in favor of and against a statewide smoking ban. I hope you will use facts to aid you in your decision. You should be cautious when you are presented with information about the economic impacts of a statewide ban upon the restaurant industry. You should look critically at the studies and numbers presented to you. I suggest that you only consider studies that:

1. Use objective data such as sales reported to tax authorities, government employment or tourism statistics that are collected by a neutral party.

2. Use data that is collected and analyzed over at least one full year, or better yet, several years to take into account the seasonal peaks and valleys in the restaurant industry.

3. Cover all restaurant businesses, not a biased few.

4. Only consider studies that are published in a respected peer reviewed journal. These tend to be much more reliable and factual research.

In conclusion, I ask you to think about the 73% of Nevadans who are non-smokers. Many currently will not eat in a smoky restaurant. If all restaurants become non-smoking, don't you think that the non-smokers will return to those restaurants that previously had smoky air?

I urge you to vote in favor of AB 96. When you look at the facts, statewide bans have not caused negative economic impacts to the restaurant industry. Only positive health benefits for everyone.

Thank You

Greg Butler
Buenos Grill

SCARC ACTION ALERT -- July 31, 1996

Study Finds NYC's Smoke-Free Air Act Has Not Hurt Restaurant Business

"Ultimately, smoke-free legislation is likely to have a positive impact on restaurant-industry revenues. Our advice to other cities and municipalities is to consider seriously similar legislation. The restaurant industry collectively may experience higher revenues through smoke-free legislation."

David Corsun et. al., "Should NYC's Restaurateurs Lighten Up?" CORNELL HOTEL AND RESTAURANT ADMINISTRATION QUARTERLY, April 1996.

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SUMMARY

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Researchers at Cornell University found that a smoke-free policy for restaurants helps business -- and revenue -- more than it drives away. The conclusion was based on a study, "Should NYC's Restaurateurs Lighten Up?" that examined the economic effects of New York City's Smoke-Free Air Act, a law that banned smoking in almost all restaurants in the city. The findings refute assertions made by the tobacco industry and some restaurant groups before the Act went into effect in April 1995 that banning smoking would cause a tremendous loss of business for restaurants.

Researchers examined how New Yorkers' dining habits and spending patterns changed in the four months after the Act's implementation. [redacted] thirty-eight percent of [redacted] eating out less frequently, and forty-seven [redacted] do not allow [redacted] while seventeen percent of non-smokers are eating out more frequently. [redacted] almost 2.5 times more overall restaurant revenue than smokers, and so compensate for the loss in [redacted]

The study concludes that since the number of people in favor of or neutral to the Act greatly outnumber those in active opposition, restaurant owners stand to benefit financially from implementing clean indoor air policies.

The Cornell study is the first attempt to collect scientific data on the impact of New York City's law on consumer behavior. Previous accounts regarding the Act's economic impact have been anecdotal, relating restaurant owners' reactions. For example, a survey by the National Smokers Alliance (a tobacco-industry sponsored organization) examined the reactions of New York City restaurant owners one month after the Act was implemented, and found that fifty-six percent reported a drop in sales, which they attributed to the Act. The average decline in sales, according to the NSA, was sixteen percent. However, the Cornell study points out two flaws in the NSA survey. The survey implies that the reported decline in sales was caused by the Act, when the decline could have been due to other non-specified factors. Additionally, the NSA surveyed restaurant owners, rather than restaurant patrons, whose change in behavior is of primary concern.

The Cornell study cites other data showing that smokefree policies do not result in a loss of revenue for restaurants, including:

* A study of the aggregate restaurant sales data from West Lake Hills, Texas (a suburb of Austin) found that the city's smokefree ordinance [redacted] in June 1993 did [redacted] decline among restaurants. ("Assessment of the Impact of a 100% Smoke- Free Ordinance on Restaurant Sales -- West Lake Hills, Texas," MORBIDITY AND MORTALITY WEEKLY REPORT, Centers for Disease Control and Prevention, May 19, 1995.) * A study of 15 communities in California and Colorado concluded that smokefree ordinances do not hurt restaurant sales. (Stanton Glantz and Lisa Smith, "The Effect of

Ordinances Requiring Smoke-Free Restaurants on Restaurant Sales," AMERICAN JOURNAL OF PUBLIC HEALTH, July 1994.) * The [redacted] in the six months since the city's clean indoor air law took effect (November 5, [redacted] increase for the 1996 Zagat NYC Restaurant Survey.) (1) * A study of the aggregate meal tax receipts in Brookline, Massachusetts found that a smokefree policy for all restaurants did not have a measurable immediate effect on the city's total restaurant business. ("Preliminary Analysis of the Economic Impact of Brookline's Restaurant Smoking Ban," Health Economics Research Inc., November 20, 1995.) (2) * [redacted] sales data in [redacted] did not adversely affect restaurant sales. (John Scanlon et. al., "Prohibiting Smoking in Restaurants: Effects on Restaurant Sales.") (3)

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OBJECTIVE

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To use the Cornell University study and other studies to refute claims that restaurant clean indoor air policies harm restaurants economically.

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USEFUL FACTS

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Smokers committed to smoking while eating are only seventeen percent of the general population, although they are the biggest spenders at restaurants. However, forty-seven percent of the general population are nonsmokers who are sensitive to smoke, and account for twice as much restaurant revenue as the above-mentioned smokers.

More than a third of smokers (ten percent of the general population) are adapting to the Act, rather than violating it or avoiding eating out.

Nonsmokers and smokers who are adapting to the Act account for eighty-four percent of the general population, and nearly eighty percent of consumer restaurant spending.

Source: David Corsun et. al., "Should NYC's Restaurateurs Lighten Up?" CORNELL HOTEL AND RESTAURANT ADMINISTRATION QUARTERLY, April 1996.

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FRAMING STRATEGIES

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SMOKEFREE RESTAURANTS ARE GOOD FOR HEALTH AND BUSINESS

Since secondhand smoke is a cla[redacted] asbestos, [redacted] right decision for public health. And studies are also showing that it's the right business decision. Look at the numbers: the vast majority of the public would support -- and patronize -- a smokefree restaurant. About three-quarters of the public is nonsmoking, and thus has no need of a smoking section. Additionally, the Cornell study found that about [redacted] percent of the public is made up of [redacted] easily adapt to smokefree environments. In contrast, a restaurant that allows smoking appeals directly to only about sixteen percent of the population.

SOUND SCIENCE PROVES US RIGHT AGAIN

The Cornell study used a scientifically sound method to reach its conclusion. It surveyed NYC restaurant patrons after the Smoke-Free Act had gone into effect to discern any changes in their dining behavior, spending patterns, demographics, and attitudes toward smoking. In contrast, the study funded by the National Smokers Alliance relied on fears, not facts, reporting anecdotally on restaurant owners' impressions to conclude that the Act caused a revenue decline.

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SUGGESTED ACTIONS

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1. Order a copy of the study by contacting: Center for Hospitality Research, 545 Statler Hall, School of Hotel Administration, Cornell University, Ithaca,

NY 14853- 6902, ph: (607) 255-4054.

2. Familiarize yourself with the study and be prepared to use it in your activities regarding clean indoor air. For example, it can be used in testimony before a legislative body, in fact sheets, op-eds, and editorial board meetings. Share it with others working on the issue.

3. Contact local restaurants, the restaurant association, or the chamber of commerce and offer to provide copies of the study to them (or copies of this Alert, if the study is too long). Encourage them to establish smokefree policies.

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FOOTNOTES

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1. For a copy of the press release, contact Zagat at 4 Columbus Circle, New York, NY, 10019, ph: (212) 977-600. Copies of the Restaurant Survey may be available in your local bookstore (probably the travel section).

2. For a copy of the study, send a written request to the Massachusetts Tobacco Control Program, 250 Washington Street, 4th Floor, Boston, MA 02108- 4619, fax (617) 624-5922.

3. For a copy of the study, which is currently under review for publication in a journal, contact John Sciacca at PO Box 15095, College of Health Professions, Northern Arizona University, Flagstaff, AZ 86011.

*** Please feel free to copy this alert. There is no need to ask for permission. ***

Produced by: Smoking Control Advocacy Resource Center (SCARC)

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REVIEW

[redacted] economic effects [redacted] industry

M Scollo, A Lal, A Hyland, S Glantz

Tobacco Control 2003;12:13–20

See end of article for authors' affiliations

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Objective: To compare the quality and funding source of studies concluding a negative economic impact of smoke-free policies in the hospitality industry to studies concluding no such negative impact.
Data sources: Researchers sought all studies produced before 31 August 2002. Articles published in scientific journals were located with Medline, Science Citation Index, Social Sciences Citation Index, Current Contents, PsychInfo, Econlit, and Healthstar. Unpublished studies were located from tobacco company websites and through internet searches.
Study selection: 97 studies that made statements about economic impact were included. 93% of the studies located met the selection criteria as determined by consensus between multiple reviewers.
Data extraction: Findings and characteristics of studies (apart from funding source) were classified independently by two researchers. A third assessor blind to both the objective of the present study and to funding source also classified each study.
Data synthesis: In studies concluding a negative impact, the odds of using a subjective outcome measure was 4.0 times (95% confidence interval (CI) 1.4 to 9.6; p = 0.007) and the odds of not being peer reviewed was 20 times (95% CI 2.6 to 166.7; p = 0.004) that of studies concluding no such negative impact. All of the studies concluding a negative impact were supported by the tobacco industry. 94% of the tobacco industry supported studies concluded a negative economic impact compared to none of the non-industry supported studies.
[redacted] from [redacted] economic impact.

Smoke-free workplace policies reduce both exposure to secondhand tobacco smoke and cigarette consumption.[1–3] Smoke-free restaurants and bars similarly reduce exposure to tobacco smoke toxins among hospitality workers and patrons but also represent a serious business threat to the tobacco industry.

In California in 1987, a 100% smoke-free restaurant ordinance in Beverly Hills was rolled back, partly in response to claims that the ordinance was responsible for reducing restaurant revenues by 30%, claims which later turned out to be unsubstantiated.[4] Since then, tobacco companies and allied groups have routinely predicted that enactment of such legislation would severely impact restaurant and bar sales and employment.[5–9] Health advocates, by contrast, have presented studies indicating that no such adverse effects actually occurred.[10]

Policymakers are typically presented with a large amount of conflicting material, with evidence ranging from anecdotes about individual businesses[11] to scientific studies analysing objective information collected independently across an entire hospitality sector.[12] Such data are often confusing to interpret and it is difficult for policymakers to reach an evidence based conclusion. In their case study of deliberations by the Maryland Occupational Safety and Health Advisory Board, Montini *et al* demonstrate that those opposing proposed smoke-free workplace regulations lodged twice the number of submissions as those supporting it, but that evidence from opponents was substantially less scientifically rigorous than evidence provided by supporters of workplace smoking regulations.[13] Similar findings were observed in relation to the Californian Environmental Protection Agency's risk assessment of secondhand smoke,[14] and in Maryland and Washington hearings on proposed clean indoor air regulations.[15] Bero and her colleagues have repeatedly called on advocates to more forcefully draw to legislators' attention the superior scientific quality of the evidence base relied upon by public health groups in calling for clean air legislation.[13–15]

This paper compares the quality of evidence and conclusions about the economic impact of smoke-free laws on the hospitality industry based on the type of data used, how the studies are designed, analysed and interpreted, and the funding source.

METHODS

Data source

Studies included in this analysis are listed in a comprehensive summary produced by the VicHealth Centre for Tobacco Control.[16] Centre researchers attempted to locate all studies produced in English before 31 August 2002 that purported to assess the economic impact of smoke-free policies in the hospitality industry. Peer reviewed articles were located with Medline, Science Citation Index, Social Sciences Citation Index, Current Contents, PsychInfo, Econlit, and Healthstar using the terms smok* and restaurants, bars, hospitality, economic, regulation and law. Unpublished studies were also included in the analysis. These studies were located from a compilation by the Alberta Tobacco Control Centre,[10] by a request to members of the International Union Against Cancer's International Tobacco Control Network (GLOBALink), and an examination of hospitality industry websites and the websites of tobacco companies based in major English speaking countries, including the Philip Morris "Options" website, www.pmoptions.com . The researchers also conducted an internet search with the Google search engine www.google-.com , using the terms "smok* bans" and "restaurants" or "bars", limited by the terms "economic impact" or "study".

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Study selection

Studies included measured changes in sales, employment, numbers of establishments, bankruptcy data, public reports of intentions about or recent changes in patronage, spending or time spent dining, proprietors predictions or perceptions of sales changes and costs and estimated numbers of tourists. Studies were excluded where these made no explicit or implicit attempt to quantify the economic impact of smoking restrictions. Studies assessing opinions about smoke-free policy were included where the study included a question asking specifically whether people would attend venues more or less frequently were such policies to be introduced.

Ninety three per cent of the studies located (97/104) met the selection criteria as determined by consensus between multiple reviewers.

DATA EXTRACTION

Findings and characteristics of studies (apart from funding source) were classified independently by two researchers in most cases several months before the start of the study (MS and AL). Both assessors had tertiary qualifications in behavioural science and economics. A third assessor, (LH) a postgraduate psychology student blind to both the objective of the present study and to the funding source, also classified each study.

We used Siegel's criteria[12] to judge study quality: use of objective data (for example, tax receipts or employment statistics); inclusion of all data points after the law was implemented and several years before; use of regression or other statistical methods that control for secular trends and random fluctuation in the data; and appropriate control for overall economic trend. The more criteria a particular study met, the more certain one can be about the validity of results.

An outcome measure was deemed "objective" if it was based on data collected routinely by an independent agency covering the periods both before and after the smoke-free policy was in force. Objective measures included: sales figures provided for the purposes of taxation assessment; employment figures provided to government agencies generally for insurance purposes; and numbers of new or existing establishments based on business permit applications or registrations to the government agency that issues such permits, and bankruptcy data.

Unverifiable predictions of future changes or estimates of recent changes in patronage or spending were deemed "subjective". Subjective measures included anecdotal reports and self report data collected in polls of, or interviews with, patrons or owners of restaurants, bars or similar businesses, conducted either before or after the policy was put in place.

Another indicator of the quality of a study is whether it has been subject to peer review. The scientific quality of original research on secondhand smoke published in peer reviewed journals is superior to that in non-peer reviewed publications in terms of study design, reporting, and evaluation.[17] A study was deemed to have been peer reviewed if it was an article published in an academic journal.

Studies were classified as indicating or not indicating a negative economic effect based on their stated conclusions about the impact or potential impact on employment or profitability of the various sections of the hospitality industry at issue. All three raters agreed on the conclusions in all but one of the 97 studies. The Masotti study[16] was classified as negative, as per the conclusion of two of the three raters. Two studies[19 20] did not draw conclusions; we included them in the analysis based on their face-value findings.

Funding sources for each paper were noted after completion of all the other classification tasks. Funding was determined from acknowledgments in the studies (obscured on copies of papers classified by the third rater). When the source was not clearly disclosed, authors were contacted where possible and attempts were made to determine whether authors or sponsoring agencies had ever received financial support from a tobacco company or affiliated group. Searches were undertaken of previously secret tobacco industry documents made available as part of settlement agreements between tobacco companies the US attorneys general[21 22] (accessible through www.tobaccoarchives.com).

Analyses

We used contingency tables and odds ratios to compare studies concluding a negative impact with those not concluding a negative impact.

DATA SYNTHESIS

A total of 97 reports were located.[5 18–20 23–115]. Studies covered numerous local jurisdictions in 31 state or provincial areas, in eight countries. Thirty four of the studies examined the impact of smoke-free policies for drinking establishments, and 90 the impact of smoke-free policies for restaurants. Two studies examined the impact for recreational venues. One examined the impact of smoke-free restaurants on hotels and another on overall tourism.

Study quality

Of the 97 studies, 38% (37/97) used objective outcome measures and 25% (24/97) were peer reviewed. Twenty one studies met Siegel's four criteria for methodological quality, representing 57% (21/37) of the studies that used objective measures. By contrast, 98% (59/60) of the studies using only subjective outcome measures met none of the criteria. The odds of peer reviewed articles meeting all four criteria was 5.33 times that of non-peer reviewed studies (95% confidence interval (CI) 1.9 to 15.1; $p = 0.002$).

Funding source

Of the 97 studies, 32% (31) were funded either by the tobacco industry or a group known to have received funding from a tobacco company or tobacco industry ally.[19 20 23 57 59–61 80–83 84 86–97 103 107 108 114] Four studies did not disclose funding source, but were conducted by consultants or organisations known to have a connection with the tobacco industry.[18 31 58 65] For three of these studies, there was strong evidence of collaboration between tobacco companies and the study authors.[31 58 65]

The two studies by consultants where close ties with the tobacco industry had been established and those funded by organisations known to have received funding from the tobacco industry were included with the tobacco industry funded studies, yielding 31 tobacco industry supported studies. The funding source was treated as missing for six studies[18 27 99 104–106] because no data on funding source could be located.

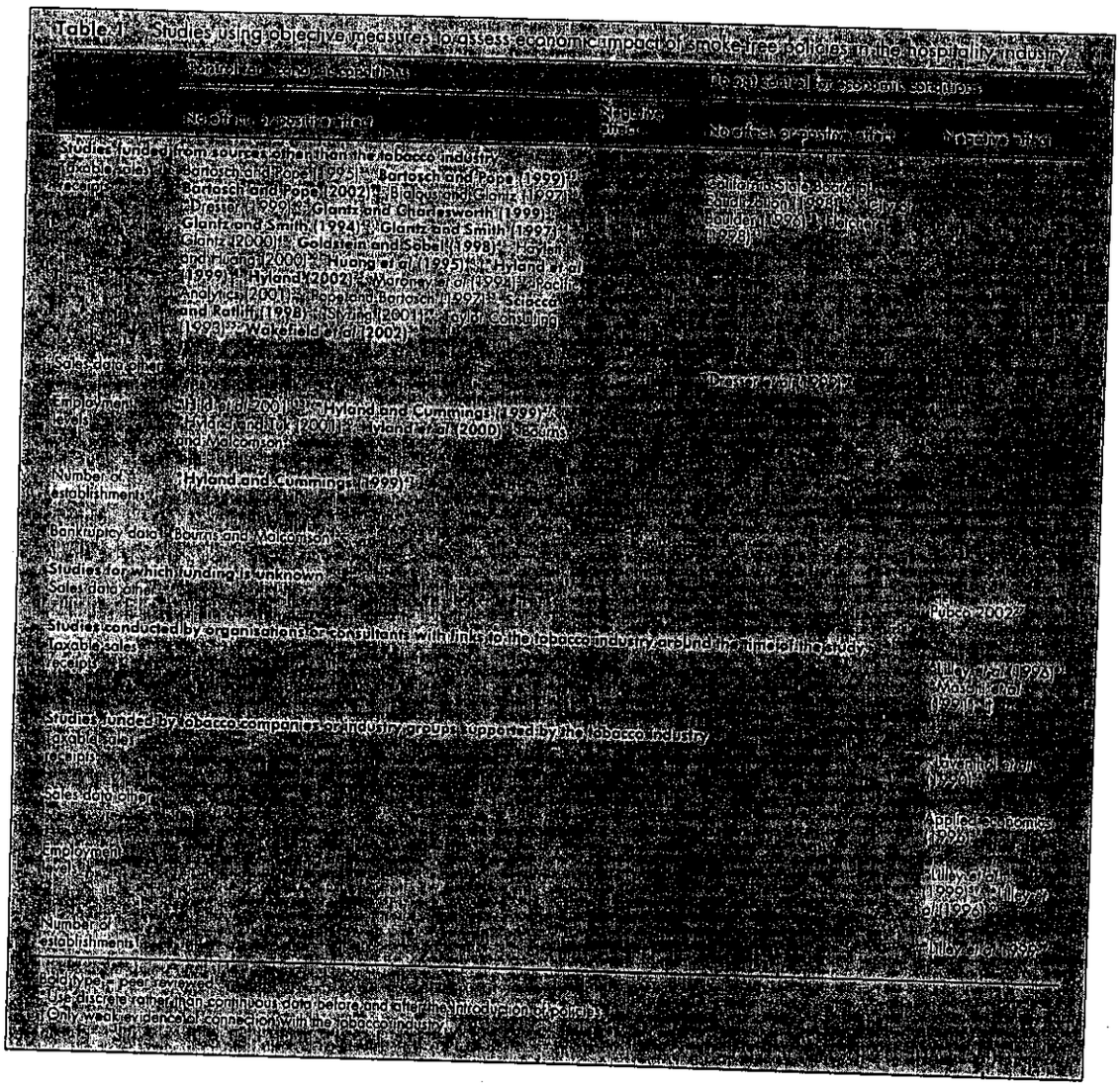
The other 60 studies[5 24–26 28–30 32–36 62–79 98 100–102 109–113 115] were funded either by government, health related organisations or independent market research organisations.

All the studies used in this analysis is summarised in tables 1 and 2.

Study quality and funding

The methodological quality of the industry sponsored studies was significantly lower ($p < 0.001$) than the non-industry studies (table 3). Only one of the 31 tobacco industry supported studies (3%) has been published in a peer reviewed journal compared to 38% (23/60) of the non-industry funded studies. None (0/31) of the tobacco industry supported studies met all of Siegel's[12] four methodological quality criteria. Indeed, 84% (26/31) of the industry supported studies met none of the criteria. By contrast, 35% (21/60) of the studies not supported by the tobacco industry met all of Siegel's[12]

Table 4 Studies using objective measures to assess economic impact of smoke-free policies in the hospitality industry



criteria[5 25 30 33–36 42–46 48 49 51–54 58] ($p < 0.001$). Eleven of these non-industry funded studies have been published in peer reviewed journals.

Study quality and conclusion

Table 4 sets out the findings of those studies meeting each of various indicators of high quality: using objective outcome measures; meeting this and Siegel's other three criteria for quality; being funded by a source clearly independent of the tobacco industry; and being peer reviewed.

None of the 21 studies that met all four of Siegel's[17] quality criteria reported a negative impact (table 4). In fact, four of the studies report a positive impact on taxable sales receipts of restaurants, bars, hotels, or tourism.[5 36 43 48]

Only a handful of studies based on objective data conclude a negative impact. None of these meets more than one of Siegel's other three criteria for methodological quality. Only one peer reviewed study concluded a negative impact.[44] This study relied on subjective data and was funded by a tobacco company.

Table 5, conversely, shows, for those studies concluding negative impact, whether each of the various quality criteria was met. Once again, studies concluding a negative impact rarely included an objective measure and were almost never peer reviewed.

In studies concluding a negative impact, the odds of using only a subjective measure was 4.0 times (95% CI 1.4 to 9.9; $p = 0.007$) and the odds of being peer reviewed was 20 times (95% CI 2.6 to 166.7; $p = 0.004$) that of studies concluding no such negative impact (table 6)

Funding source and conclusion

There was a significant association of tobacco industry support with negative conclusions of the study ($p < 0.001$) (table 6). Ninety four per cent (29/31) of the tobacco industry supported studies concluded that there was or would be a negative economic impact of implementing a smoke-free policy. The odds ratio for a negative conclusion associated with tobacco industry support was infinite because none of the 60 non-industry funded studies concluded a negative economic impact.

DISCUSSION

Lower quality studies were much more likely to conclude smoke-free regulations adversely impact the hospitality industry, and weaker studies were much more likely to be

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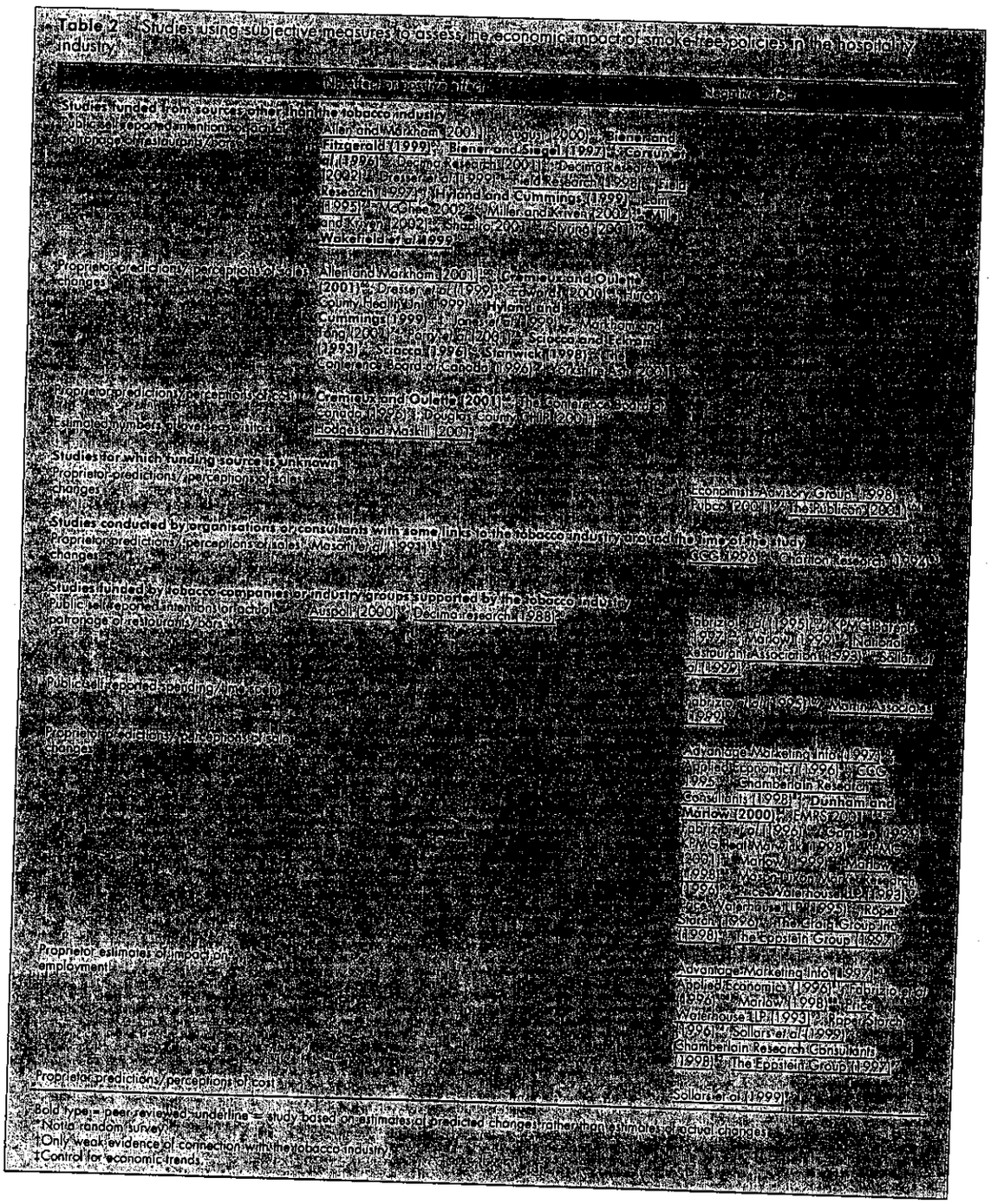
Table 2 Studies using subjective measures to assess the economic impact of smoke-free policies in the hospitality industry



funded by the tobacco industry. In addition, the industry studies were less likely to be published in the peer reviewed literature. Almost all (94%) of industry supported studies, compared to none of the studies funded by sources other than the tobacco industry, claimed a negative economic impact.

These results are consistent with a similar linkage between tobacco industry funding and conclusions in reviews of the effects of secondhand smoke.[116] Barnes and Bero[116] identified 106 reviews of the relation between secondhand smoke and disease. Thirty seven per cent of these reviews concluded that passive smoking was not harmful to health; 74% of these reviews were written by authors with tobacco industry affiliations. Among reviews written by individuals with no industry affiliations, only 13% (10/75) reached the conclusion that passive smoking is not harmful to health. In logistic regression analyses controlling for article quality, peer review status, article topic, and publication year, the only factor associated with concluding that passive smoking is not harmful was whether an author was affiliated with the tobacco industry (odds ratio 88.4; $p < 0.001$).

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Table 3 Quality of studies supported by the tobacco industry compared with those that are not

Percent of studies	Industry supported studies	Non-industry studies	Odd ratios (95% CI)	p Value
Including an objective outcome measure	16% (5/31)	50% (30/60)	5.2 (1.7 to 15.4)	0.003
Meeting all four methodological criteria	0% (0/31)	35% (21/60)	Infinite	
Subject to peer review	3% (1/31)	38% (23/60)	18.5 (2.4 to 142.9)	0.005

CI, confidence intervals.

Table 4 Findings of higher quality studies

	Concluded a negative impact			
	Yes	No	χ^2	p Value
Meeting all four Siegel criteria (n=21)	0% (0/21)	100% (21/21)	15.13	0.000
Including an objective measure (n=37)	19% (7/37)	81% (30/37)	[illegible]	0.006
Funded by source clearly independent of the tobacco industry (n=60)	0% (0/60)	100% (60/60)	[illegible]	0.000
Peer reviewed (n=24)	4% (1/24)	96% (23/24)	14.09	0.000

Table 5 Quality of studies among those that reported a negative impact

	Yes	No	χ^2	p Value
Meeting all four Siegel criteria	0% (0/35)	100% (35/35)	15.13	0.000
Including an objective measure	20% (7/35)	80% (28/35)	7.64	0.006
Funded by source clearly independent of tobacco industry	0% (0/35)	100% (35/35)	88.80	0.000
Peer reviewed	3% (1/35)	97% (34/35)	14.09	0.000

Table 6 Odds ratios for indicators of lower quality among studies with negative conclusions compared to studies not concluding a negative impact

	Finding a negative outcome	Not finding a negative outcome	Odds ratios (95% CI)	p Value
Including only subjective outcome measures	80% (28/35)	52% (32/62)	4.0 (1.4 to 9.9)	0.007
Funded by the tobacco industry or a group supported by the tobacco industry	94% (29/31)	4% (2/62)	Infinite	0.001
Not being peer reviewed?	97% (34/35)	63% (39/62)	20 (2.6 to 166.7)	0.004

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The possibility of publication bias always exists. It is possible that studies by those sympathetic to public health goals that detect a negative impact would be less likely to be submitted for publication. On the other hand those funded by the tobacco industry would be similarly unlikely to release studies detecting no negative impact. We have made every effort to identify all studies done on the effects of smoke-free laws and regulations on the hospitality industry. The fact that the tobacco industry has a strong motivation to publicise all negative studies adds to our confidence that we have not missed a substantial number of studies concluding a negative economic impact.

Siegel's criteria are a valuable tool for assessing the quality of studies on the economic impact of smoke-free policies in the hospitality industry. Our findings suggest that policymakers can make a quick preliminary assessment of study quality by asking three questions:

(1) Was the study funded by a source clearly independent of the tobacco industry?

(2) Did the study objectively measure what actually happened, or was it based on subjective predictions or assessments?

(3) Was it published in a peer reviewed journal?

Of the 35 studies on this topic published that concluded a negative impact, none have been funded by a source clearly independent of the tobacco industry, and none have both used an objective measure and been peer reviewed. In fact, 80% of these studies passed none of these basic tests of quality. With all 21 of the well designed studies finding that smoke-free restaurant and bar laws had no negative impact on revenue or jobs, policymakers can act to protect workers and patrons from the toxins in secondhand smoke confident in rejecting predictions that there will an adverse economic impact.

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REFERENCES

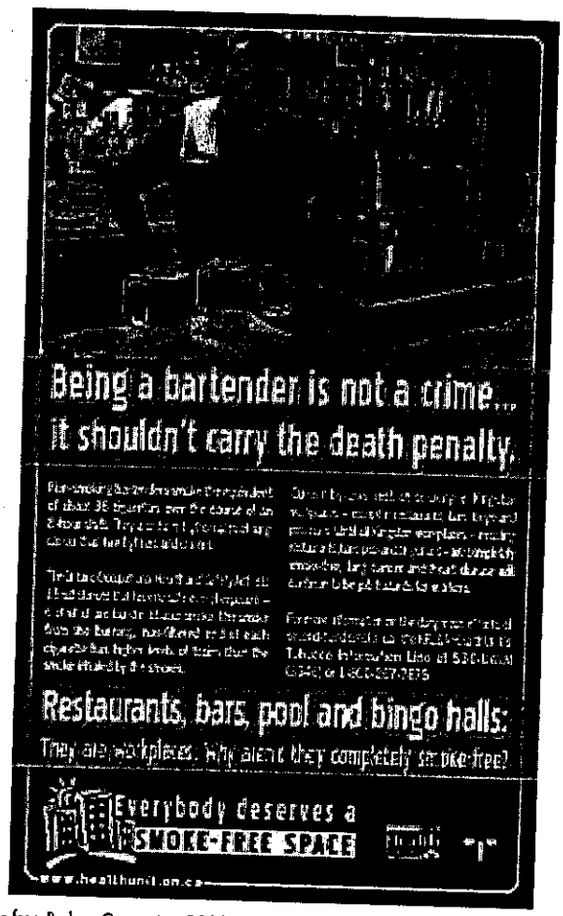
1 **Chapman S,** Borland R, Scollo M, *et al.* The impact of smoke-free workplaces on declining cigarette consumption in Australia and the United States. *Am J Public Health* 1999;**89**:1018–23.
2 **Fichtenberg CM,** Glantz SA. Effect of smoke-free workplaces on smoking behaviour: systematic review. *BMJ* 2002;**325**:188.
3 **Burns D,** Shanks T, Major J, *et al.* Restrictions on smoking in the workplace. In: US Department of Health and Human Services, Public Health Service, National Institute of Health, National Cancer Institute, eds. *Population based smoking cessation.* Bethseda; 2000.
4 **Samuels B,** Glantz S. The politics of local tobacco control. *JAMA* 1991;**266**:2110–7.
5 **Glantz S,** Charlesworth A. Tourism and hotel revenues before and after passage of smoke-free restaurant ordinances. *JAMA* 1999;**281**:1911–18.
6 **Magzamen S,** Glantz S. The new battleground: California's experience with smoke-free bars. *Am J Public Health* 2001;**91**:245–52.
7 **Ritch WA,** Begay ME. Strange bedfellows: the history of collaboration between the Massachusetts Restaurant Association and the tobacco industry. *Am J Public Health* 2001;**91**:598–603.
8 **Mangurian C,** Bero LA. Lessons learned from the tobacco industries' efforts to prevent the passage of a work place smoking regulation. *Am J Public Health* 2000;**90**:1926–30.
9 **Dearlove J,** Bialous S, Glantz S. Tobacco industry manipulation of the hospitality industry to maintain smoking in public places. *Tobacco Control* [in press].
10 **Alberta Tobacco Control Centre.** *The economic impact of smoke-free restaurant bylaws.* Edmonton: Alberta Tobacco Control Centre, 1999.
11 **Magzamen S,** Charlesworth A, Glantz S. Print media coverage of California's smokefree bar law. *Tobacco Control* 2001;**10**:154–60.
12 **Siegel M.** Economic impact of 100% smoke-free restaurant ordinances. In: *Smoking and restaurants: a guide for policy makers.* Berkeley: UC Berkeley/UCSF Preventative Medicine Residency Program; American Heart Association, California Affiliate; Alameda County Health Care Services Agency, Tobacco Control Program; 1992.
13 **Montini T,** Bero L. Policy makers' perspectives on tobacco control advocates' roles in regulation development. *Tobacco Control* 2001;**10**:218–24.
14 **Schotland M,** Bero L. Evaluating public commentary on scientific evidence submitted in the development of risk assessment. *Risk Analysis* 2002;**22**:131–40.
15 **Bero L,** Montini T, Bryan-Jones K, *et al.* Science in regulatory policy making: case studies in the development of workplace smoking restrictions. *Tobacco Control* 2001;**10**:329–36.
16 **Scollo M,** Lal A. Summary of studies assessing the economic impact of smoke-free policies in the hospitality industry - includes studies produced to 31 August 2002. Melbourne: VicHealth Centre for Tobacco Control; 2002. http://www.vctc.org.au/publ/reports/hospitality_paper_summary.pdf.
17 **Barnes DE,** Bero LA. Scientific quality of original research articles on environmental tobacco smoke. *Tobacco Control* 1997;**6**:19–26.
18 **Masotti L,** Creticos P. The effects of a ban on smoking in public places in San Luis Obispo California; 1991.
19 **Auspoll.** Philip Morris Public Opinion Survey; 2000 January.
20 **Decima Research.** Focus group report on project visa for Imperial Tobacco. 1988. Access date: 24 September 2001. URL: http://www.tobaccodocuments.org/view.cfm?CitID=5772634&GetListArrayIdx=.1&ShowImage s=yes.
21 **Dyer C.** Confidential tobacco documents enter public domain. *BMJ* 1998;**316**:1186.
22 **Malone RE,** Balbach ED. Tobacco industry documents: treasure trove or quagmire? *Tobacco Control* 2000;**9**:334–8.
23 **KPMG Barents Group LLC.** *The expected economic impact on Spain of a ban in smoking in restaurants.* Washington; 1997 April.
24 **Mcghee S,** Hedley A, Lam T. *Does the government's proposal to create smoke-free catering facilities in restaurants, cafes, bars and karaokes influence the intentions of tourists to visit Hong Kong and to patronise catering venues.* Hong Kong: Health Services Research Group, Department of Community Medicine, University of Hong Kong, March 2002.
25 **Hyland A.** *Before and after smoke-free regulations in new taxable sales from eating and drinking places in New York State.* New York: Roswell Park Cancer Institute, June 2002.
26 **Miller C,** Kriven S. Smoke-free dining in South Australia: surveys of community attitudes and practices after 4 and 18 months. In: *Tobacco control research and evaluation report 1998-2001.* Adelaide: Tobacco Control Research Evaluation Unit, 2002.
27 **Pubco.** Official figures from Ontario brewers confirm disastrous effects of smoking ban. Pub and Bar Coalition of Ontario. 2002. Access date: 26 August 2002. URL: http://www.smokeinottawa.com/html/index.html.
28 **Miller C,** Kriven S. Community support for smoking bans in bar and gaming venues in South Australia.In: *Tobacco control research and evaluation report 1998-2001.* Adelaide: Tobacco Control Research Evaluation Unit, 2002.
29 **Styring W.** *A study of the Fort Wayne (IN) restaurant smoking ban: has it impacted the restaurant business?* Indianapolis: Hudson Institute, 2001.
30 **Hayslett J,** Huang P. *Impact of clean indoor air ordinances on restaurant revenues in four Texas cities.* Bureau of Disease, Injury and Tobacco Prevention, Texas Department of Health, 2000.
31 **KPMG.** *Proposed smoking ban: impacts on Hong Kong hospitality businesses.* Hong Kong Catering Industry Association, September 2001.
32 **Decima Research Inc.** Public support grows for city's smoking by-law. Decima Research Inc. 2002. Access date: 26 August 2002. URL: http://www.decima.ca/research/WhatsNew/index.asp?ID=57.
33 **Bourns B,** Malcomson A. *Economic impact analysis of the non-smoking bylaw on the hospitality industry in Ottawa.* KPMG, 2001.
34 **Bartosch W,** Pope G. *Preliminary analysis of the economic impact of Brooklines smoking ban.* Massachusetts: Health Economics Research Inc, 1995.
35 **Bartosch W,** Pope G. The economic effect of smoke-free restaurant policies on restaurant businesses in Massachusetts. *J Public Health Manag Pract* 1999;**5**(1):53–62.
36 **Bialous S,** Glantz S. *Tobacco control in Arizona.* Institute for Health Policy Studies, University of California. 1997. Access date: 8 August 2001. URL: www.library.ucsf.edu/tobacco/az.
37 **California State Board of Equalization.** Report, 13 October 1998.
38 **City of Boulder Colorado.** Tax receipt data, 1996.
39 **Dresser J,** Boles S, Lichtenstein E, *et al. Multiple impacts of a bar smoking prohibition ordinance in Corvallis, Oregon.* Pacific Research Institute, 1999.
40 **Dresser L.** *Clearing the air.* Wisconsin: Tobacco-Free Wisconsin Coalition, 1999.

L 13 of 21

41 **Fletcher J.** *An onalysis of sales tax receipts from restaurants with bars and free standing bars in Chico, California 1995-1997.* California Department of Health Services, Tobacco Control Section, 1998.
42 **Glantz S,** Smith L. The effect of ordinances requiring smoke-free restaurants on restaurant sales. *Am J Public Health* 1994;**84**:1081–5.
43 **Glantz S.** Effect of smokefree bar law on bar revenues in California. *Tobacco Control* 2000;**9**:111–2.
44 **Glantz S,** Smith L. The effect of ordinances requiring smoke-free restaurants and bars on revenues: a follow up. *Am J Public Health* 1997;**87**:1687–93.
45 **Goldstein A,** Sobel R. Environmental tobacco smoke regulations have not hurt restaurant sales in North Carolina. *North Carolina Med J* 1998;59:284–7.
46 **Huang P,** Tobias S, Kohout S, *et al.* Assessment of the impact of a 100% smoke-free ordinances on restaurant sales - West Lake Hills, Texas, 1992-1994. *MMWR Morb Mortal Wkly Rep* 1995;**44**:370–2.
47 **Hyland A,** Cummings K. Restaurant employment before and after the New York City Smoke-free Air Act. *J Public Health Manag Pract* 1999;5(1):22–7.
48 **Hyland A,** Cummings K, Nauenberg E. Analysis of taxable sales receipts: was New York City's Smoke-free Air Act bad for business? *J Public Health Manag Pract* 1999;5(1):14–21.
49 **Hyland A,** Vena C, Cummings K, *et al.* The effect of the Clean Air Act of Erie County, New York on restaurant employment. *J Public Health Manag Pract* 2000;6(6):76–85.
50 **Hyland A,** Tuk J. Restaurant employment boom in New York City. *Tobacco Control* 2001;**10**:199–200.
51 **Maroney N,** Sherwood D, Stubblebine W. *The impact of tobacco control ordinances on restaurant revenues in California.* Claremont, California: The Claremont Institute for Economic Policy Studies, 1994.
52 **Pacific Analytics Inc.** The economic impacts of the proposed amendment to the ETS regulation. 2001. Access date: 3 August 2001. URL: http://www.worksafebc.com/priority/smoke/pdfs/ecoimpact.pdf.
53 **Pope G,** Bartosch W. *Effect of local smokefree restaurant policies on restaurant revenue in Massachusetts.* Center for Health Economics Research, April 1997.
54 **Sciacca J,** Ratliff M. Prohibiting smoking in restaurants: effects on restaurant sales. *Am J Health Promot* 1998;12:176–84.
55 **Taylor Consulting Group.** *The San Luis Obispo smoking ordinance: s study of the economic impacts of San Luis Obispo restaurants and bars.* San Luis Obispo, California, 1993.
56 **Wakefield M,** Siahpush M, Scollo M, *et al.* The effect of a smoke-free law on monthly restaurant retail turnover in South Australia. *Aust NZ J Public Health* 2002;**26**:375–82.
57 **Applied Economics.** Economic impact of the City of Mesa smoke-free ordinance: working paper 2. 1996. Access date: 9 August 2001. URL: http://www.pmoptions.com/images/EconomicImpactMesa2.pdf.
58 **Laventhal & Horwath.** *Preliminary analysis of the impact of the proposed Los Angeles ban on smoking in restaurants.* Los Angeles, 1990.
59 **Lilley W,** DeFranco L. *The impact of smoking restrictions on the bar and tavern industry in California.* Washington: InContext Inc, 26 October 1999.
60 **Lilley W,** DeFranco L. Restaurant jobs in New York City, 1993 through first quarter 1996, and the restaurant smoking ban. 1996. Access date: 13 September 2001. URL: http://www.pmoptions.com/images/RestaurantJobs.pdf.
61 **Lilley W,** DeFranco L. Massachusetts restaurant smoking ban 23 cities/towns: impact on restaurant jobs 1993-1995. 1996. Access date: 13 September 2001. URL: http://www.pmoptions.com/images/MassRestaurant.pdf.
62 **August K,** Brooks L. *Support for smoke-free bars grows stronger in California:* California Department of Health Services, 2000.
63 **Biener L,** Fitzgerald G. Smoky bars and restaurants: who avoids them and why. *J Public Health Manag Pract* 1999;5(1):74–8.
64 **Biener L,** Siegel M. Behavior intentions of the public after bans in restaurants and bars. *Am J Public Health* 1997;**87**:2042–4.
65 **Corsun D,** Young C, Enz C. Should NYC's restaurateurs lighten up? Effects of the city's Smoke-free Air Act. *Cornell Hotel Restaurant Adm Q* 1996;**37**(2):25–33.
66 **Cremieux P,** Ouliette P. Actual and perceived impacts of tobacco regulation on restaurants and firms. *Tobacco Control* 2001;**10**:33–7.
67 **Decima Research.** Ottawa residents back smoking ban by two to one. 2001. Access date: 19 October 2001. URL: http://www.decima.ca/research/WhatsNew/011017.asp.
68 **Edwards R.** New Study: 76% of the North East hospitality trade back smoke free areas & over 90% of publicans recommend other pubs try one. 2000. Access date: 8 August 2001. URL: http://www.ash.org.uk/html/press/000720.html.
69 **Field Research Corporation.** A survey of California adults age 21 or older about smoking policies and smoke-free bars. California: California Department of Health Services, July 1997.
70 **Field Research Corporation.** A survey of California bar patrons about smoking policies and smoke-free bars: California Department of Health Services, March 1998.
71 **Hyland A,** Cummings K. Consumer response to the New York City smoke-free air act. *J Public Health Manag Pract* 1999;5(1):28–36.
72 **Hyland A,** Cummings K. Restaurateur reports of the economic impact of the New York City Smoke-free Air Act. *J Public Health Manag Pract* 1999;5(1):37–42.
73 **Lam T,** Chung S, Tam E, *et al. Public opinion on smoke-free restaurants.* Hong Kong: Department of Community Medicine, The University of Hong Kong, October 1995.
74 **Markham V,** Tong R. Reactions and attitudes to health (smoking in enclosed places) regulations 1999. 2001. Access date: 3 August 2001. URL: http://acosh.org/library_fr_set.htm.
75 **Sciacca J,** Eckram M. Effects of a city ordinance regulating smoking in restaurants and retail stores. *J Community Health* 1993;**18**:175–82.
76 **Sciacca J.** A mandatory smoking ban in restaurants: concerns versus experiences. *J Community Health* 1996;**21**:133–150.
77 **Stanwick R,** Thomson M, Swerhone P, *et al.* The response of Winnipeg retail shops and restaurants to a bylaw regulating smoking in public places. *Can J Public Health* 1988;79:226–30.
78 **Parry J,** Temperton H, Flanagan T, *et al.* An evaluation of the impact of the introduction of "non-smoking" areas on trade and customer satisfaction in 11 public houses in Staffordshire. *Tobacco Control* 2001;**10**:199–200.
79 **Conference Board of Canada.** *The economics of smoke-free restaurants.* Toronto, 1996.
80 **Advantage Marketing Information.** Rhode Islander's attitudes towards smoking in restaurants and hotels. 1997. Access date: 13 September 2001. URL: http://www.pmoptions.com/images/RhodeIsland.pdf.
81 **Applied Economics.** Economic impact of the City of Mesa smoke-free ordinance: working paper 1. 1996. Access date: 8 August 2001. URL: http://www.pmoptions.com/images/EconomicImpactMesa1.pdf.
82 **Chamberlain Research Consultants.** Smoking issues in Wisconsin. 1998. Access date: 13 September 2001. URL: http://www.pmoptions.com/images/Wisconsin.pdf.
83 **Charlton Research Group.** *Pacific Dining Car Restaurant and Southern California Business Association Survey.* San Francisco, 1994.
84 **Dunham J,** Marlow M. Smoking laws and their differential effects on restaurants, bars and taverns. *Contemporary Economic Policy* 2000;**18**:326–33.
85 **Gombee P.** *Economic impacts of smoking ban in Bellflower California.* California Business and Restaurant Alliance (CBRA), 1991.
86 **KPMG Peat Marwick LLP.** *The impact of California's smoking ban on bars, taverns and night clubs: A survey of owners and managers.* Washington DC: KPMG, 1998.
87 **Marlow M.** *An economic analysis of the Maine smoking ban: evidence from patrons and owners of businesses* California Polytechnic State University, 1999.
88 **Marlow M.** *The economic effect of smoking laws on bars and taverns.* California Polytechnic University, 1998.
89 **Martin Associates.** Analysis of passenger expenditure profiles at Phoenix Sky Harbour International Airport in-concession survey. 1999. Access date: 13 September 2001. URL: http://www.pmoptions.com/images/PHOENIX.pdf.
90 **Mason-Dixon Market Research.** Maryland smoking regulation survey. 1996. Access date: 9 August 2001. URL: http://www.pmoptions.com/images/Maryland.pdf.
91 **National Restaurant Association.** Smoking in restaurants a consumer attitude survey. Washington DC, 1993.
92 **Price Waterhouse LLP.** New York City restaurant survey. 1995. Access date: 8 August 2001. URL: http://www.pmoptions.com/images/NewYork.pdf.
93 **Price Waterhouse.** Potential effects of a smoking ban in the State of California. 1993. Access date: 9 August 2001. URL: http://www.pmoptions.com/images/PotentialEconomicEffects.pdf.
94 **Roper Starch.** National survey of restaurants and bars/taverns: smoking policy and regulations. 1996. Access date: 9 August 2001. URL: http://www.pmoptions.com/images/NationalSurvey.pdf.
95 **Sollars D,** Ingram J. Economic impact of the restaurant smoking ban in the city of Massachusetts, May 5 1999.
96 **The Craig Group Inc.** West Virginia restaurants and taverns fear smoking bans would hurt business, 1998.
97 **The Eppstein Group.** 1997 statewide hospitality industry benchmark poll. 1997. Access date: 13 September 2001. URL: http://www.pmoptions.com/images/Texas.pdf.
98 **Bartosch W,** Pope G. The effect of smoking restrictions on restaurant business in Massachusetts, 1992-1998. *Tobacco Control* 2002;**11**(suppl II):ii38–42.
99 **Pubco.** September Pubco survey confirms severe economic impact, job losses in its member bars and pubs. 2001. Access date: 28 November 2001. URL: http://www.pubcoalition.com/html/.
100 **Allen K,** Markham V. *Public opinions and attitudes towards creating smokefree bars in Western Australia.* ACOSH, November 2001.
101 **Wakefield M,** Roberts L, Miller C. Perceptions of the effect of an impending restaurant smoking ban on dining-out experience. *Prev Med* 1999;**29**:53–6.
102 **Yorkshire Ash.** Popularity and impact on trade of smoke-free accommodation in the hospitality trade in Yorkshire; 2001.
103 **CCG Consulting Group Limited.** The hospitality sector and a Vancouver smoking ban, 1995. Access date: 3 December 2001. URL: http://193.78.190.200/evhosp/restaur/restaur.htm.
104 **CCG Consulting Group.** The food services and hospitality sector and a metro Toronto smoking ban. 1996. Access date: 3 December 2001. URL: http://193.78.190.200/evhosp/restaur/restaur.htm.
105 **Economists Advisory Group Ltd.** *The potential economic impact of a smoking ban in restaurants.* The Restaurant Association, September 1998.
106 **The Publican Newspaper.** Reading the smoke signals. Market Report 2001: smoking 2001. p 22.
107 **Fabrizio McLaughlin and Associates Inc.** Impact of smoking bans on smokers dining out patterns derived from national survey of adults smokers. 1995. Access date: 3 December 2001. URL: http://www.forces.org/evidence/evid/bans.htm.

L 14 of 21

108 **Fabrizio McLaughlin and Associates Inc**. Survey of New York City Restaurateurs. 1996. Access date: 3 December 2001. URL: http://193.78.190.200/evhosp/fabnysrv.htm.
109 **Hodges I**, Maskill C. *Assessing the potential impact of restaurant and bar smoking bans on visitors to New Zealand*. Auckland: Healthsearch, 18 January 2001.
110 **Douglas County Community Health Improvement Project**. Douglas County Business Smoking Survey, June 2001.
111 **Huron County Health Unit**. Huron County Health Unit restaurant survey, June 1999.
112 **Shapiro T**. Butt of the law hits restaurants. Business Day, 15 August 2001.
113 **Hild C**, Larson E, Weiss L, *et al*. *Review of Municipality of Anchorage Chapter 16.65 – prohibition of smoking in public places*. Institute for Circumpolar Health Studies, October 2001.
114 **Enterprise Marketing and Research Services**. The effects of recent events on the Tasmanian hotel industry, November 2001.
115 **Jones K**, Wakefield M, Turnball D. Attitudes and experiences of restaurateurs regarding smoking bans in Adelaide, South Australia. *Tobacco Control* 1999;8:62–6.
116 **Barnes DE**, Bero LA. Why review articles on the health effects of possive smoking reach different conclusions. *JAMA* 1998;279:1566–70.



City of Kingston, Canada: Smoke-free By-law Campaign 2002. ©Kingston, Frontenac and Lennox & Addington Health Unit - J. Chenier.

Economic Impacts of Smoke-Free Enviroments

Smoke-Free Environments Law Project

[redacted]ke-free [redacted]ies. These same concerns are presented when communities propose smoke-free ordinances. Likewise, questions arise about the economic impact on employers of continuing to allow smoking in the workplace or in public places.

In this section of the SFELP web site, we have provided links to authoritative articles and studies which address various issues concerning the economic impact of smoke-free policies and laws. These articles focus both on the impact on employers/businesses of adopting smoke-free policies and on the economic impact of not having smoke-free policies, since there are clear costs to employers and businesses which continue to permit smoking.

Additional materials will be added to this site on a regular basis.

ECONOMIC IMPACT OF SMOKE-FREE POLICIES ON BUSINESSES, INCLUDING RESTAURANTS & BARS

Businesses which consider adopting smoke-free policies, particularly hospitality industry businesses such as restaurants and bars, are concerned about the economic impact of such policies on their businesses. Likewise, when communities or states propose adopting smoke-free ordinances or regulations, business owners, policymakers and the public are concerned about the possible economic effects of such policies. While the tobacco industry has for years stated that smoke-free policies will reduce customer patronage of smoke-free businesses, there are no credible, scientific studies that support these claims. We have attempted, below, to compile scientifically reliable reports, and articles about such reports, which examine these issues.

73% of California Bar Patrons Support Smoke-Free Law

On October 16, 2000, the results were released of an independent statewide survey in California by respected polling firm, Field Research Corporation, which found that 73% of those bar patrons polled approved of the California law prohibiting them from smoking in bars. This is a dramatic 24% increase from the 59% level when the law took effect in 1998. Further, the poll, conducted in June/July, 2000, found that 75% of bar patrons say that a smoke-free environment in clubs, bars, lounges and restaurants with bars is "very important" or "somewhat important" to them. In addition, 72% of bar patrons say they are concerned about the effects of secondhand smoke on their health. Other key survey findings include the following: 91% of bar patrons either go to bars more often or have not changed their bar-going behavior as a result of the smoking ban; 87% of bar patrons say they enjoy visiting bars as much or more due to the ban; on average, bar patrons are staying longer at bars than prior to the smoking ban; and, support for the ban has almost doubled among smokers since it went into effect in 1998, increasing from 24% to 44 %. The survey provides strong evidence

that the warnings that such smoking bans will hurt business, often uttered by the tobacco and hospitality industries, are based on smoke, not substance. For a press release from the California Department of Health Services, which includes a link to bar graph charts in pdf, click above; for a news story click here.

Dr. Glantz's Critique of Tobacco Industry-sponsored Economic Impact Studies

On August 23, 2000, Dr. Stanton Glantz of the University of California at San Francisco released this critique of recent studies by John Dunham of Philip Morris and Michael Marlow of California Polytechnic University which purport to demonstrate that smoke-free restaurant laws will hurt revenues for the hospitality industry. The critique by Dr. Glantz points out the many flaws in the papers written by Dunham and Marlow, and Glantz warns that these papers are almost certain to be used by the forces opposed to smoke-free environments laws. Glantz also points out that all scientifically credible studies show the revenues are not reduced by smoke-free laws, and, in most cases, they increase following passage of such laws.

[redacted]

The Impact of Smoke-Free Restaurant Laws.

The entire January, 1999 issue of the Journal of Public Health Management & Practice was devoted to articles analyzing the impact of smoke-free restaurant laws. Six articles examine the effects of the New York City Smoke-Free Air Act on the city's hospitality industry. Three other articles describe findings on the impact of smoke-free laws passed in Massachusetts. Data from taxable sales receipts, surveys of consumers and restaurateurs, employment statistics, and complaint data presented in the articles showed the following: smoke-free restaurant laws do not cause adverse economic consequences; people support such laws; and restaurant owners are able to comply with relative ease to these laws. While these articles are not accessible online, copies of the full journal issue are available for $25 from the publisher by calling 1-800-638-8437.

[redacted]

Environmental Tobacco Smoke Regulations Have Not Hurt Restaurant Sales in North Carolina

This article analyzed the economic impact of local ordinances in North Carolina Ð obviously,

a large tobacco-producing and using state Ð which restricted smoking in restaurants. The analysis found that the implementation of stringent ETS regulations had no adverse economic impact on restaurant sales in the five North Carolina counties with the strongest ordinance

Assessment of the Impact of a 100% Smoke-Free Ordinance on Restaurant Sales - West Lake Hills, Texas, 1992-1994.

This article reviewed the economic impact of a 100% smoke-free ordinance in West Lake Hills, Texas (a suburb of Austin) which was effective on June 1, 1993 and which required 100% smoke-free environments in all commercial establishments to which the public has access, including all restaurants and restaurants with bar areas. The report analyzed sales data before and after implementation of the smoke-free law and found that total sales in the restaurants did not decrease after implementation of the law. These findings, the editorial to the article notes, are consistent with similar findings in other locations which have adopted smoke-free restaurant ordinances.

COSTS TO EMPLOYERS OF ALLOWING SMOKING IN THE WORKPLACE

Allowing smoking in the workplace has a number of hidden - and not so hidden - costs to the employer associated with it. Among these costs are: higher medical insurance premiums; more worker's compensation claims; lost worker time and productivity due to smoking breaks; absenteeism due to tobacco-related illnesses; smoking-related fires; etc. Further, as described in other sections of this web site, there are many legal liability issues for employers which are directly related to smoking in the workplace. Many of these costs - and liability issues - can be avoided or mitigated by the adoption of smoke-free policies. The following are links to articles which discuss these issues.

Costs of Employee Smoking in the Workplace in Scotland.

This is a link to the abstract of a May, 2000 article in Tobacco Control Journal which examined the costs of smoking in the workplace, and the potential cost savings to the employer if smoke-free policies and/or smoking cessation programs were instituted.

Smoking Breaks by Employees Average 39 Minutes Daily in Michigan.

A February, 2000 survey in Michigan found that the average employee who smokes takes three smoking breaks each workday averaging 13 minutes for each break. If these employees are paid an average of $13 an hour, Michigan employers spend about $1.7 billion annually on employee smoke breaks, according to this Detroit Free Press report.

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TOBACCO SCAM How Big Tobacco uses and abuses the restaurant industry.

SALES DON'T LIE

How can you tell if smokefree measures affect the hospitality business? It's simple: look at actual business results before and after.

Methodologically-sound studies have examined the real impact of such measures on business revenues or employment in more than eighty U.S. locales and around the world. These studies are sound because:

1. They use objective data (sales reported to tax authorities, or government employment or tourism statistics) collected by a neutral party with no interest in the secondhand smoke issue.
2. They collect and analyze data for several years before the law went into effect so underlying economic trends, and seasonal and random variations, can be accounted for.
3. They cover all hospitality businesses, not a biased few.

Economic studies database...
Summary of economic studies...

Big Tobacco predicts disaster:

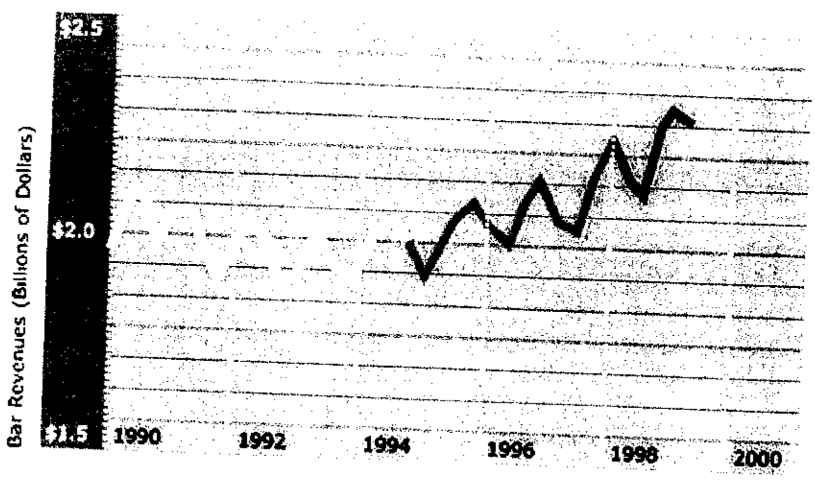
- Anchorage, Alaska
- Beverly Hills, California
- Mesa, Arizona
- New York City
- Tourism warnings

What really happened in California

(Powerpoint slide presentation...)
... and in New York and elsewhere
(Powerpoint slide presentation *2.32 Megs*)

[redacted] smokefree measure improves business.

Big Tobacco has also claimed that California's smokefree law hurt bars. But a look at actual sales tax receipts proves that, just as local measures don't hurt bars, neither did the statewide measure that followed some years later.



Bar revenues in California continued to increase after the smokefree bar law took effect in 1998 (dark blue line), three years after the smokefree restaurant provisions took effect in 1995 (light blue line).Details

As Big Tobacco warnings on bars and restaurants have lost credibility, it has begun to make equally unfounded claims that tourism will suffer. No objective, properly-conducted study has uncovered any negative effect on tourism.

LETTERS TO THE EDITOR

Letters intended for publication should be a maximum of 500 words, 10 references, and one table or figure, and should be sent to the editor at the address given on the inside front cover. Those responding to articles or correspondence published in the journal should be received within six weeks of publication.

Smoking among Buddhist monks in Phnom Penh, Cambodia

EDITOR,—According to existing studies, Buddhist monks can have an impact on smoking cessation in a given population.[1 2] It is because of their influence that Buddhist monks in Phnom Penh, Cambodia were selected for a study of their knowledge, attitudes, and practices concerning tobacco, with the long term objective of developing ways of enlisting their support in tobacco control efforts in Cambodia.

The 30 cluster survey method was employed, wherein all of the temples in the city were listed and, according to the number of monks residing at them, 30 sites were randomly selected for interviewing from seven to 11 monks each for a total of 318 interviews. Questions were designed to reflect the potentially sensitive issue of smoking among religious practitioners. There were no cases of interview refusal.

When all 318 respondents were asked, "Do you want to quit smoking?" 44% gave some type of answer other than "not applicable": 37% said "yes", 3% "no", and 4% "not sure". Also, when all respondents were asked, "Why do you want/not want to quit?" a total of 44% gave some reason. Finally, when asked, "What do you do with the tobacco gift packages you receive?" 44% of the 318 respondents mentioned that they smoke the gift tobacco themselves. These figures lead us to believe that the prevalence of current smokers among Buddhist monks is 44%. In comparison, smoking prevalence among the general male population in Phnom Penh is almost 65% (1994) and among Buddhist monks in Thailand 56% (1990).[3 4]

Of the influences to start smoking 26% of respondents said that an individual friend was the main influence to start smoking; 18% responded group pressure from friends or other monks; 21% complimentary cigarettes; 12% work/stress; 8% father's influence; 3% advertising; and 12% other reasons. As can be seen, these two influences alone—individual friends and group pressure—were responsible for almost half of all influences to start smoking.

When asked what they thought the teachings of Buddha have to say about smoking, 91% of respondents said the teachings of Buddha do not say anything; but when asked if there should be a Buddhist law that recommends monks do not smoke, 71% replied "yes". When asked if the government should require warning messages on all tobacco advertising, 94% agreed; 96% agreed that the government should ban all tobacco advertising.

About one third (34%) of all respondents thought that people should not offer cigarettes to monks, while an equivalent percentage (38%) thought people should. Another approximately one third was not sure. These figures can be partially explained by a question in the survey that asked what monks did with the tobacco gift packages. Over 50% "give" the cigarettes away. More commonly, the cigarettes are sold or bartered for extra income, but it would not be appropriate, according to Buddhist principles, to admit this.

Direct assistance for smoking cessation programmes is urgently needed: 84% of smokers want to quit; if a program was available to help people stop smoking, 95% of smokers said they would attend; 86% of all respondents would be willing to teach people about the effects of smoking.

The pattern of responses indicates that, even though the teachings of Buddha do not say anything about smoking directly, there is a stigma tied to smoking that inhibits many monks from admitting their smoking habits directly. The large majority of monks feel that smoking is not an appropriate practice and that there should be a Buddhist law that recommends they do not smoke.

Most monks, however, have little understanding of the specific detrimental effects smoking has on them, as well as the effects of second hand smoke. Health education is needed to raise such awareness, as are cessation programmes to help bring about desired behaviour changes.

The small scale of this research makes it difficult to generalise conclusions for monks throughout the country. However, it does provide useful insights into some trends in tobacco use among monks in Cambodia and highlights a number of important issues for further research. Most importantly, this study reveals the potential that exists for successful cooperation with monks in tobacco control efforts in Cambodia.

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1 Anon. Influence of religious leaders on smoking cessation in a rural population—Thailand, 1991. *MMWR Morb Mortal Wkly Rep* 1993; 42:367–9.
2 Swaddiwudhipong W, Chaovakiratipong C, *et al.* A Thai monk: an agent for smoking reduction in a rural population. *Int J Epidemiol* 1993;22:660–5.
3 Smith M, Umenai T, Radford C. Prevalence of smoking in Cambodia. *J Epidemiol* 1998;8:85–9.
4 Chitanondh H. *Tobacco use: an update—April 1991.* Bangkok, Thailand: Ministry of Public Health, Office for Tobacco Consumption Control, National Committee for Control of Tobacco Use, 1991.

Effect of smokefree bar law on bar [illegible]

EDITOR,—In 1998 a California state smokefree workplace law requiring that bars be smoke free went into effect.[1 2] Both before passage of this law and shortly after it went into effect, the tobacco industry and its allies predicted that it would hurt the bar business. To test the hypothesis that smoke free bar legislation harms the bar business, we obtained total revenues from eating and drinking establishments licenced to serve all forms of alcohol ("bar revenues") from the tax authorities in California (fig 1). We conducted an analysis of these data following a similar approach to earlier analyses of the effects of smokefree restaurant and bar ordinances on communities.[3–4]

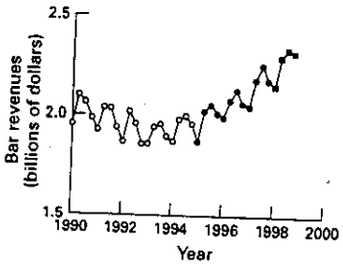

Figure 1 Total revenues from eating and drinking establishments with full liquor licences in California before a state smokefree workplace law went into effect (open circles), after restaurant provisions went into effect (solid circles), and when bars were required to be smokefree (solid squares). Data from quarterly reports of the California State Board of Equalization.

Briefly, we divided bar revenues by total retail sales to account for underlying economic conditions and inflation and conducted a multiple linear regression analysis with time, calendar quarter, a dummy variable to indicate whether the restaurant provisions the law were in force (0 before 1 January 1995, and 1 afterwards), and another dummy variable to indicate if the bar provisions were in force (0 before 1 January 1998, and 1 afterwards). We also examined the fraction of all "eating and drinking establishment" revenues that were going to those with liquor licenses to see if there was any shift in the mix of business associated with either the restaurant or bar provisions of the state smoke free workplace law. (Note that these bar revenues include both revenues of restaurants that include bars as well as free standing bars.[4])

There was no significant effect of the restaurant provisions of the law on bar revenues as a fraction of total retail sales (coefficient of dummy variable −0.01 (0.04)%, p = 0.811); there was a small but significant positive change in bar revenues as a fraction of retail sales associated with the bar provisions going into effect (coefficient 0.09 (0.04)%, p = 0.029). In [illegible] cited [illegible] eating and drinking establishment revenues that went to establishments with liquor [illegible] −0.54 (0.27)%, p = 0.054), and a [illegible] following implementation of the smokefree bar provisions (0.73 (0.25)%, p = 0.007).

As with claims of adverse effects on the restaurant and tourist industries, these data further discredit tobacco industry claims that [illegible] laws are bad for the bar business. Quite the contrary, these laws appear to be good for business.

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1 Macdonald H, Glantz S. The political realities of statewide smoking legislation: the passage of California's assembly bill 13. *Tobacco Control* 1997;6:41–54.
2 Magzamen S, Glantz S. *Turning the tide. Tobacco industry, political influence and tobacco policy working in California 1997-1999.* San Francisco, CA: University of California Institute for Health Policy Studies, 1999 (http://www.library.ucsf.edu/tobacco/ca9597).
3 Glantz S, Smith LRA. The effect of ordinances requiring smoke-free restaurants on restaurant sales [published erratum appears in *Am J Public Health* 1997;87:1729–30]. *Am J Public Health* 1994;84:1081–5.
4 Glantz S, Smith L. The effect of ordinances requiring smoke-free restaurants and bars on revenues: a follow-up [published erratum appears in *Am J Public Health* 1998;88:1122]. *Am J Public Health* 1997;87:1687–93.
5 Glantz S. Smoke-free restaurant ordinances do not affect restaurant business. Period. *J Public Health Mgt and Practice* 1999;5:vi–ix.
6 Glantz S, Charlesworth A. Tourism and hotel revenues before and after passage of smoke-free restaurant ordinances. *JAMA* 1999; 281:1911–18.

Passive smoking and an increased risk of acute stroke

EDITOR,—Although "passive smoking" may be intuitively harmful, the paper by Bonita and colleagues[1] on the risk of stroke and environmental tobacco smoke (ETS) exposure suffers from two fundamental defects. The first is the enormously disproportionate effect due to a small exposure, and the second is the lack of allowance for confounding variables, especially diet.

Serum cotinine concentrations have recently been determined at the US National Center for Environmental Health using the most sensitive method to date of high resolution gas chromatography with mass spectrometry.[2] In 10 000 subjects it was shown that the mean serum cotinine concentration in ETS exposed non-smokers was 0.6 ng/ml compared to 300 ng/ml in active smokers. This represents 1/500th of the dose received by the active smoker.

It is difficult to reconcile this degree of exposure with an increased risk of stroke which is one quarter that of the active smoker. A similar disproportionate effect has been claimed for the increased risk of ischaemic heart disease and ETS exposure, but the biological plausibility and mechanisms of effect advanced to support this have been shown to lack credibility.[3 4]

It is well established that active smokers have other associated risk factors. They are physically less active and have lower intakes of fruit, vegetables, folate, and flavenoids,[5] which are all linked to a substantial increased risk for stroke,[6–8] and many of these characteristics are shared with non-smokers living with smokers.[9]

Although Bonita and colleagues excluded Maori and Pacific islands people from the study, the fact remains that in the residual sample, smoking, and therefore passive smoking, is more prevalent among lower socioeconomic groups, and independent of smoking, these groups have a higher risk of stroke.

The Pacific islands people indigenous to New Zealand have a higher incidence of stroke than Europeans indigenous to New Zealand. In this respect it is noteworthy that in the Pacific Melanesian islands where a traditional way of life is followed, but where cigarette smoking is excessive, cardiovascular disease and stroke are apparently absent. An example is the study on the Kitavan islanders, where 80% of people smoke cigarettes rolled from black imported or home grown tobacco and stroke is absent. Bonita and Beaglehole[10] in their comment on this study noted " . . .this is worrisome in view of the other adverse effects of tobacco". The staple diet of these people consists of root tubers, fruit, fish and coconuts, low salt, low fat (rather different to the New Zealand diet), they are physically active, and have low body mass index.

High stroke rates in Japan have diminished in recent years, due not to smoking reduction, but largely to salt restriction and a more westernised diet; the high stroke incidence in China is not strongly associated with smoking.

The interaction of diet, ethnicity, socioeconomic, cultural, and behavioural characteristics is complex, but cannot be ignored when considering the effect of smoking on the incidence of stroke. In view of the extremely low exposure and lack of allowance for confounding variables, the increased risk of stroke attributed to passive smoking by Bonita and colleagues[1] is unlikely to be true.

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1 Bonita R, Duncan J, Truelsen T, *et al.* Passive smoking as well as active smoking increases the risk of acute stroke. *Tobacco Control* 1999;8:156–60.
2 Pirkle JL, Flegal KM, Bernert JT, *et al.* Exposure of the US population to environmental tobacco smoke. *JAMA* 1996;275:1233–40.
3 Denson KWE. Environmental tobacco smoke and ischaemic heart disease: a critical assessment of recent meta-analyses and reviews. *Med Sci Res* 1999;27:75–82.
4 Lee PN, Roe FJC. Environmental tobacco smoke exposure and heart disease: a critique of the claims of Glantz and Parmley. *Hum Ecol Risk Assess* 1999;5:173–218.
5 Dallongeville J, Marecaux N, Fruchart JC, *et al.* Cigarette smoking is associated with unhealthy patterns of nutrient intake: a meta-analysis. *J Nutr* 1998;128:1450–7.
6 James WPT, Nelson M, Ralph A, *et al.* Socioeconomic determinants of health: the contribution of nutrition to inequalities in health. *BMJ* 1997;314:1545–9.
7 Gillman MW, Cupples LA, Gagnon D, *et al.* Protective effects of fruits and vegetables on development of stroke in men. *JAMA* 1995; 273:1113–17.
8 Keli SO, Hertog MG, Feskens EJ, *et al.* Dietary flavenoids, antioxidant vitamins, and incidence of stroke: the Zutphen study. *Arch Intern Med* 1996;156:637–42.
9 Thornton A, Lee PN, Fry J. Differences between smokers, ex-smokers, passive smokers and nonsmokers. *J Clin Epidemiol* 1994; 47:1143–62.
10 Bonita R, Beaglehole R. Cardiovascular disease epidemiology in developing countries: ethics and etiquette. *Lancet* 1994;344:1586–7.

Response by authors:

Passive smoking and risk of stroke seems a solid connection

EDITOR,—Kenneth Denson refers to results from the US National Center for Environmental Health where the serum cotinine concentration in environmental tobacco smoke (ETS) exposed non-smokers was only 1/500th of the dose received by the active smoker. From this point of view, Denson finds it difficult to reconcile that ETS exposed non-smokers in our study should have a risk of stroke one quarter that of the active smoker.

Although cotinine is a marker of tobacco smoke exposure, with its own limitations,[1] it has not been proved also to be a valid marker of a person's exposure to all of the toxic compounds in tobacco smoke. There are several possible biological mechanisms by which passive smoking may increase the risk of stroke—for example, increased platelet aggregation[2] and reduced oxygen carrying capacity.[3] Debate continues as to the best biomarker for passive smoking.

While it is true that the National Health and Nutrition Examination Survey (NHANES) study[4] cited by Denson was based on a large and carefully selected sample, it is noteworthy that the physical examinations and collection of blood sample "usually occurred 2 to 3 weeks after a household interview", and, furthermore, after the topic of smoking had already been raised. Thus, there was ample opportunity for members of each selected household to change their smoking behaviour well before the blood samples were drawn. Cotinine concentrations would then not have been indicative of usual patterns of exposure to ETS. In addition, NHANES assumed that sharing a home with a smoker equated with passive exposure. This assumption becomes particularly tenuous when 40% of participants in the study were aged less than 12 years; the effects of passive smoking on the health of children were already well known in the community.

While it would have been optimal to have been able to control for differences in diet between non-smokers exposed and not exposed to ETS, confounding is unlikely to explain our findings. There is only limited evidence that the diet of individuals strongly affects their risk of stroke. In general terms, the relative risk associated with a confounding variable needs to be at least double the observed association for that confounder to explain it. Denson is unable to nominate a specific confounder and refers instead to ecological studies which are well known as having many pitfalls. It is highly unlikely that decades of work on the aetiology of stroke, including a number of very large prospective studies, would have failed to uncover a strong dietary risk factor for stroke, if one existed. In the meta-analysis of analytical studies by Law and colleagues[5] differences in diet were judged likely to account for 6% of the increased risk of coronary heart disease associated with ETS in non-smokers. If those results may be extrapolated to our data on stroke the odds ratio would decrease to 1.72 (1.82/1.06)—which is still a considerable increased risk. Thus, dietary differences are unlikely to explain all of the increased risk in non-smokers exposed to ETS in the present study.[5]

It is always a possibility that one study, by chance, finds a strong association between an exposure and an end point. What accounts to the credibility of our study is that the anti-tobacco campaign in New Zealand has been very successful. In the study of environmental tobacco smoking exposure in the US population, the authors found that 88% of people who were not smokers had detectable concentrations of cotinine, including people who reported not to be exposed either at home or at work.[4] Thus, the relatively high odds ratios found in our