Anti-Smoking Groups Hone their Tactics to Suppress Dissent: My Suggested Guidebook for Tobacco Control Advocates for Quelling Internal Dissent

Over the past months, anti-smoking groups have been forced to hone their techniques of suppressing dissent from within the movement, since so far I have not been deterred by any of these tactics.

But I've learned a lot about how the groups are able to suppress dissent.

Thus, I offer my Top Five List of Techniques to Suppress Dissent. I propose this as a guidebook or manual that could be given to anti-smoking advocates. I even offer actual, real-life examples of each of the techniques.

Top Five List of Techniques to Suppress Dissent:
A Guidebook for Tobacco Control Advocates

5. Accuse the Dissenter of Being Paid Off by the Tobacco Industry

When you don't like what a colleague is saying, simply turn the tables on him and accuse him of being paid off by the tobacco industry. Don't worry about not having documentation of your accusation or the possibly defamatory nature of your public statement. After all, claims only need to be documented when they're made by the tobacco companies. Anti-smoking groups are not subject to the same ethical standards.

Example: Accuse the dissenter of being a **tobacco stooge**.

4. Accuse the Dissenter of Supporting the Tobacco Industry

Just shy of making an outright accusation that the dissenter is being paid off by the tobacco companies, simply accuse the dissenter of supporting the tobacco industry cause. This relieves you of the defamation risk but allows you to accomplish virtually the same objective of discrediting the dissenter and ruining his career. This is enough to discourage all but the most hardy of anti-smoking advocates from offering any criticism of the tactics, statements, or agenda of the movement.

Example 1: Accuse the dissenter of **lending support to the destruction of the health** of the public.

Example 2: Accuse the dissenter of **running a tobacco industry support group**.

3. Accuse the Dissenter of Helping to Kill People

There are times when tactics #4 and #5 will not work because the dissenter has a long history of fighting Big Tobacco and it will be clear to your colleagues that he doesn't support the tobacco industry cause. In these cases, an excellent approach is to accuse him of helping to kill people, even though that may not be his actual goal. By aligning him with the goals of Big Tobacco without actually suggesting that he is intentionally supporting tobacco companies, you have at your hands an excellent way of discrediting the advocate through personal attack.

Example: Accuse the dissenter of **helping Big Tobacco kill people**.

2. Implore All Anti-Smoking Groups and Advocates to Ignore the Dissenter

If you don't think that anyone will buy the argument that the dissenter is taking money from Big Tobacco or supporting the Big Tobacco cause because he has devoted 20 or more years of his life to fighting tobacco-related morbidity and mortality, the next best thing to do is to try to get all of your colleagues to simply ignore him. Sending an email to thousands of advocates entitled "Please Ignore [insert name of dissenter here]" is a great way of accomplishing this.

Example: Implore thousands of colleagues to **please ignore** the dissenter.

1. Censor the Dissenter by Removing Him from All Internet and Email Listserves and Discussion Forums

There are situations in which none of the less aggressive tactics will work. In cases of especially well-known and prominent dissenters who have made major contributions to the tobacco control movement through decades of research, advocacy, and leadership, you may need to resort to more aggressive and definitive tactics. Since email and internet discussion forums are now a predominant mode of communication in tobacco control, expelling the dissenter from all tobacco control email listserves and discussion forums is an ideal tactic to silence him.

Remember that you don't need a legitimate reason to expel the dissenter. You can simply state that he has interfered with the quality of the listserve messages, or that he is being too repetitive.

Example 1: **Expel** the dissenter from listserves and discussion forums.

Example 2: **Expel** the dissenter from listserves and discussion forums.

Additional Techniques to Consider

In rare situations, none of the above techniques will be effective in suppressing dissent from a colleague because he may actually have a conscience and may decide that expressing the truth to the public is worth risking his career. Do not worry. In these situations, there are a number of additional techniques that you can use.

1. Suggest that There Are More Important Things to Worry About then the Concerns Raised by the Dissenter

There are times when the concerns raised by the dissenter are actually valid and his arguments are compelling. In these cases, an effective technique is to make people think that there are many more important things to worry about then the concerns raised by the dissenter. Some very good lines to use are the following:

"We are too busy fighting Big Tobacco to pay attention to this distraction from our important work."

"Nobody is perfect. In our work to protect kids and save lives, we are bound to make a few mistakes."

"Sure we made a few misleading statements. But they're nothing compared to the statements being made by the tobacco companies and smokers' rights groups."

The word "distraction" is an excellent one to use. It turns the attack on the dissenter, suggesting that he is a distraction to the movement. Trying to deflect the criticism by turning it against the tobacco industry is also a wise and effective strategy. No matter how unethical or inappropriate the tactics and statements of the anti-smoking groups are, it will never be as bad as what the tobacco companies have done. Reminding people of that will always

deflect attention from any untruths being spread by the movement.

Example: Suggest that **there are more important things to do** then worry about the concerns of the dissenter.

2. Point Out that Only a Small Fraction of Statements We are Making are Misleading

No matter how inaccurate or fallacious a statement the anti-smoking movement is making may be, it will never represent more than about 1% of all statements made by these groups. Thus, pointing out that only a small fraction of statements made by anti-smoking groups are misleading or inaccurate is a valid and effective technique. It will take attention away from any deception that is going on and focus attention on the many accurate things that we say. Combining this technique with Additional Technique #1 is particularly effective, as it may help not only to distract attention from the deception going on in the tobacco control movement's propaganda, but re-focus it on the deception going on in the tobacco companies' propaganda.

Example: Point out that our misleading statements are **only a fraction** of all of our statements.

Techniques to Avoid at All Costs

The one technique to avoid at all costs is responding substantively to the arguments being made by the dissenter. Respond with an ad hominem attack, but by no means address the actual argument being made.

Piedmont Italy Study Becomes the Latest in a String of Junk Science Papers on Effects of Smoking Bans on Heart Attack Admissions

An **article** published online in the *European Heart Journal* concludes that a national smoking ban in Italy resulted in an 11% decline in heart attack admissions in the Piedmont region of northern Italy during the first 5 months following its implementation.

The study compared age-standardized heart attack admission rates of Piedmont residents during the 5-month period February-June 2005, which immediately followed the smoking ban (implemented in January 2005), with heart attack admission rates during the same period (February-June) for the previous 4 years. Rates were examined separately for men and women and for persons older than or younger than 60.

Among those older than 60, there was a small increase (5%) in the heart attack admission rate from 2004 to 2005. For those under 60, the heart attack admission rate decreased by 11%.

The actual rates, by year and sex for those under age 60 were:

MEN
2001: 1.21
2002: 1.25
2003: 1.31
2004: 1.35
2005: 1.24

WOMEN
2001: 0.22
2002: 0.22
2003: 0.19
2004: 0.24
2005: 0.19

As a comparison, heart attack admission rates during the 3 months prior to the smoking ban (October-December 2005) were compared to rates during the same period one year earlier. Among those younger than 60, the rate increased by 6%.

The paper concludes that the smoking ban resulted in the observed 11%

decline in the heart attack admission rate in Piedmont.

The Rest of the Story

This is an example of what I would consider to be junk science.

To isolate a five-month period during one year following a smoking ban, compare it to the same five-month period during the previous year, observe a decrease in heart attack admissions, and conclude that the decline was due to the smoking ban is not solid science. It is more on line with what I would term pure speculation.

In fact, this is the precise type of methodology that we in tobacco control have attacked as being unreliable in concluding that smoking bans have resulted in a decline in restaurant sales. Tobacco industry commissioned or funded studies, using the same methodology and finding a decline in restaurant sales associated with smoking bans have been blasted by tobacco control groups as being junk science. There is no reason why we should not view studies using the same methodology in the same way, even though the only real difference is that their findings are supportive of, rather than in opposition to, our agenda.

The biggest problem with this study is that it is impossible to rule out the simplest of alternative hypotheses: that the observed decline in heart attack admissions is simply due to random variation in the data. In other words, it is very possible that the rate of heart attack admissions would have declined in the absence of a smoking ban. It is impossible to tell, and it is impossible to even make a reasonably solid judgment in the absence of any presentation of underlying secular trends over any significant length of time and the absence of any comparison group.

A single point does not indicate a trend, and that is really the fatal flaw of this paper. It is entirely possible that the admission rate simply blipped up a little in 2005 and that in 2006 it will go back down a little. Or that the blip up in 2005 is simply a reflection of an overall trend of decreasing heart attacks during this time period that is not specific to Italy. There's just no way to know.

If you simply look at the data, you'll see that concluding that there is a substantial decline in the heart attack rate due to the smoking ban is unfounded. In fact, if you graph out the data for women under 60, it actually

appears that the observed decline in admissions in 2005 is due solely to the fact that there was a slight upward blip in 2004.

Based on the heart attack admissions rates among Piedmont women under 60 during the months of February-June from 2001-2003, the observed heart attack admission rate for 2005 should have been 0.16. Instead, it was 0.19. Does this mean that the smoking ban increased the rate of heart attacks among Piedmont women?

The truth is that the observed rate of heart attacks among Piedmont women, ages 60 and younger, during February-June 2005 is exactly the same as it was during the same period in 2003. This doesn't bode well for a conclusion that there was a substantial decline in heart attacks due to the smoking ban.

The complete absence of a comparison group is another fatal flaw. One simply has no idea what the underlying secular trend in heart attacks was from 2004 to 2005 in the overall region. Thus, it is impossible to attribute any observed decline in the rate to the smoking ban, rather than to a secular trend that would have been observed anyway, even in the absence of the smoking ban.

But the most peculiar aspect of the paper is that the authors felt compelled to stratify their results by age. This is in contrast to any of the previous papers on this topic. So it is somewhat surprising to find this stratification in this paper.

Unfortunately, a closer analysis of the data suggests the reason why the data may have had to be stratified. If one examines the total number of heart attack admissions in Piedmont during the study period, one observes what appears to be an increase in heart attacks, with a **2% increase** from February-June 2004 to 2005, the precise comparison period used to draw the study's major conclusion.

Is it possible that in the original analysis of the data, the paper found this 2% increase, and that the idea of stratifying the data occurred only after the failure to find a decrease in heart attacks when the question was examined in the standard way that it has been looked at in prior research?

The bottom line, that cannot be altered with data manipulation, is that using the same standards of analysis that the authors of the Helena, Saskatoon, and Pueblo studies used, **the Piedmont study has demonstrated that the**

implementation of the smoking ban was associated with a 2% increase in heart attacks. The number of heart attacks from February-June 2005 increased from 3581 to 3655.

The paper argues that the fact that the decline in heart attacks was found only among those under age 60 is evidence that the conclusions are valid. But if you do enough stratification, you're bound to find some group in which heart attacks declined. To me, this severely **weakens**, rather than strengthens, the study's conclusions. The fact that the data had to be manipulated far beyond what has been done in previous research in order to find what appears to be the desired effect greatly weakens the study's conclusions.

While the paper tries to rationalize its decision to stratify on age based on the supposition that younger people would be more likely to be most affected by a smoking ban, this decision doesn't jive with the supposed conclusions from Helena and Pueblo. In addition, one could make the argument that if secondhand smoke reductions are going to cause a reduction in heart attacks, this is going to occur among those people with the most severe and brittle coronary artery disease, among whom a slight trigger, such as secondhand smoke, could cause an acute coronary event. But this group is likely to be somewhat older or at least to include older as well as younger individuals.

Another curious quirk of the research, which also comes out of the blue (not done in any of the previous studies on this issue) is the exclusion of most of the data collected in the research. The basic comparison that is made consists only of data from February-June of 2005 versus the same 5 months during 2004. However, the study collected data on heart attacks during the remainder of 2005 and during all the months of the previous 4 years. Why weren't all of these data used to establish the seasonal and secular trends and random variation in the data and then to examine the complete 2005 heart attack pattern in light of this? Why would one jump to a premature conclusion before even observing the pattern for the entire year?

Perhaps the most interesting aspect of the paper is its conclusion that a reduction in secondhand smoke exposure among nonsmokers caused by the smoking ban could cause an 11% reduction in heart attacks, while the effects of the ban on reducing active smoking could only cause a 0.7% reduction in heart attacks.

As I stated earlier, one would expect the effects of any reductions in active smoking due to smoking bans to have a more substantial effect on heart

attacks than any reduction in secondhand smoke exposure (note that active smoking causes far more heart attacks than secondhand smoke). So what the paper has really shown is that one would only expect a very small reduction in heart attacks attributable to a smoking ordinance within a short period of time.

There is another reason why I think one would not expect to see a drastic effect of reduced secondhand smoke exposure on heart attacks within a several month period. In order to expect such an effect, one would have to postulate that secondhand smoke triggers acute cardiac events in persons with severe coronary artery disease, who are basically time bombs waiting to go off. In other words, the slightest insult to the system is capable of triggering a heart attack.

Well, if you eliminate secondhand smoke exposure, these people are still going to be susceptible to any other trigger. Eating a high-fat meal causes endothelial dysfunction, and might also trigger a cardiac event. So it is not clear that simply eliminating secondhand smoke exposure would prevent these individuals from suffering heart attacks.

It seems to me that we've set ourselves up for a giant failure. We've now led to the world to expect that we're going to be able to demonstrate drastic and immediate reductions in heart attacks following smoking bans. But I don't think such an effect is plausible. So when more carefully conducted studies, with longer follow-up periods, are finally conducted, they are most likely not going to find such effects. Then, instead of simply reasoning that one wouldn't expect dramatic effects, the public is going to conclude that the whole thing was a big hoax. By making this the cornerstone for our arguments in support of smoking bans, when this thing is shown to be untrue, the whole building might come crumbling down.

Although I've been quite harshly critical of the conclusions of the Helena and Pueblo studies, the Piedmont study is by far the weakest of the three. There is no comparison group, it fails to analyze all the available data, it is forced to stratify the data in order to find an effect, and it truly uses only one data point following the implementation of the smoking ban.

The study actually finds an increase in heart attacks from 3581 to 3655, a 2% increase, that is associated with the implementation of the smoking ban. Thus, in some ways, this study actually **disproves** the conclusions from Helena and Pueblo. Yet the data are manipulated in a way that tries to make it appear that

there was a dramatic decline in heart attacks. Even accepting the data manipulation, this conclusion is completely unfounded.

The Piedmont study is an example of junk science and as much as we in the tobacco control field would like to accept its conclusions, doing so is going to make us hypocrites, destroying our credibility.

Anti-smoking groups and researchers need to discredit this study's conclusions in order to make it clear that we have some scientific integrity and that as much as we would like to see dramatic effects from our interventions, we will not disseminate information to the public to support our agenda unless it is based upon solid science.

New Study Claims that New York State Smoking Ban Reduced Heart Attack Admissions by 8%

A **study** being released today concludes that the New York State smoking ban, implemented in July 2003, resulted in an 8% decline in heart attack hospital admissions statewide during the first year and a half it was in effect. The study was published online ahead of print today in the *American Journal of Public Health* (see: Juster HR, Loomis BR, Hinman TM, et al. Declines in hospital admissions for acute myocardial infarction in New York State after implementation of a comprehensive smoking ban. *Am J Public Health* 2007).

Although the study did not determine trends in heart attacks in smokers versus nonsmokers, it notes that there was not a significant decline in smoking prevalence associated with the implementation of the statewide smoking ban; thus, the decline in heart attacks is attributed to decreased secondhand smoke exposure among nonsmokers.

The study examined trends by month in age-adjusted hospital admission rates for acute myocardial infarction in all non-federal New York hospitals between 1995 and 2004. It used regression analysis to control for the effects of seasonal and secular trends as well as the presence of local smoking bans.

The paper concludes: "Rates of hospital admissions for AMI [acute myocardial infarction] were reduced by 8% after a comprehensive ban on smoking in work sites, including hospitality venues (e.g., bars and restaurants), in New York State. This is equivalent to a reduction of approximately 3800 AMI hospital admissions in 2004 and an estimated cost savings of $56 million. Our results show that enactment of clean indoor air laws was associated with an accelerated decline of hospital admissions and that a comprehensive statewide law had the largest effect."

The study results were first reported by the Associated Press **here**.

The Rest of the Story

While I do not dispute the conclusion that there was an 8% decline in hospital admissions in New York State during the second half of 2003 and all of 2004, I do not believe that these data support a conclusion that the observed decline in heart attack admissions is attributable to the statewide smoking ban.

Why? Because there is no control or comparison group. The article examines

trends in heart attacks in New York, but it does not examine what happened to heart attack admissions **anywhere else** during the same time period.

Sure - there was an 8% decline in heart attack admissions in New York during 2004. But this doesn't mean anything unless there was **not** an 8% decline in heart attack admissions in other states, that did not implement smoking bans, in 2004. Without knowing what the heart attack trends were elsewhere, there is **no basis** to conclude that the observed decline in heart attack admissions in New York was attributable to the smoking ban.

This is essentially an uncontrolled study - a study without a control group. It represents a very weak study design for this type of analysis. Even the shoddy Bowling Green and Pueblo studies employed a comparison group to evaluate whether the observed changes in heart attacks in the cities with smoking bans were also occurring in comparable cities without smoking bans.

So what **did** happen in other states between 2003 and 2004? Were heart attack admissions stable in states without smoking bans, while dropping by 8% in New York state with its smoking ban in place?

Well, in South Carolina, heart attack admissions fell by 12.5% from 2003 to 2004. This is also in marked contrast to the existing trend in heart attacks in that state. Heart attack admissions were increasing by an average of 3.0% per year during the period 2001-2003 in South Carolina. So was the 12.5% decline in heart attack admissions during the same time period in South Carolina due to the **absence** of a statewide smoking ban?

In Nebraska, heart attack admissions fell by 28.5%from 2003 to 2004. This is in marked contrast to the existing trend in heart attacks in the state. Heart attack admissions were increasing by an average of 2.3% per year during the period 2001-2003 in Nebraska. Was this dramatic drop in heart attack admissions in Nebraska, which occurred during **exactly** the same period as the decline in New York, attributable to the absence of a smoking ban in the Cornhusker state?

In fact, in all other states for which data are available, heart attack admissions fell by 5.1% from 2003 to 2004. So does the decline in heart attacks in New York represent a dramatic effect of the smoking ban, or is it simply a change that would have been expected based on the secular trends occurring across the nation during the same time period?

The article in question does not allow us to answer that question. And that is precisely why its conclusion is unwarranted.

Based on the available data, it certainly appears that large declines in heart attack admissions were occurring across the nation in 2004. The observed decline in New York was far less than was observed in Nebraska and South Carolina - two states without smoking bans.

So does this mean that the absence of a smoking ban in those two states was the reason why their heart attack admissions dropped far more than in New York? Of course not. The point is that there are large year-to-year variations in heart attacks that have nothing to do with smoking bans and in order to conclude that a small decline (such as 8%) in heart attacks was due to a smoking ban, you absolutely have to show that the decline would not have occurred in absence of the smoking ban. And to do that, you need to look at what is happening in other states.

One lesson here is that even if a study is published, you still need to review it critically and you should not necessarily assume that its conclusions are valid and well-supported. And if this is what can happen with a published article, you can only imagine how much more difficult it is to accept the conclusions of a study that is neither published nor available (i.e., the Scottish smoking ban heart attack study).

As much as we might like to believe that reducing secondhand smoke exposure prevents thousands of heart attacks in a matter of months, the evidence is simply not there to support such a conclusion. By jumping the gun and drawing conclusions prematurely, I fear that we are hurting our overall scientific credibility. In the long run, that may harm the effort to promote smoking bans far more than spreading the belief that such bans are going to immediately prevent heart attacks is going to help enact these bans.

Helena Study Itself Reveals Implausibility of Conclusions

The **study** that is **widely cited** by anti-smoking groups as demonstrating that smoking bans in bars and restaurants immediately reduce heart attacks by 40% reveals, in its own discussion of the findings, the implausibility of the study's conclusions (see: Sargent RP, Shepard RM, Glantz SA. Reduced incidence of admissions for myocardial infarction associated with public smoking ban: before and after study. *BMJ* 2004).

Apparently realizing that readers of the article would likely question the plausibility of the conclusion that a mere smoking ban could result in such a drastic (40%) and immediate (within 6 months) reduction in heart attacks, the article analyzes the plausibility of its own conclusion:

"The effect associated with the smoke-free law may seem large but is consistent with the observed effects of secondhand smoke on cardiac disease. Secondhand smoke increases the risk of a myocardial infarction by about 30%; if all this effect were to occur immediately, we would expect a fall of -0.30x40.5=-12.2 in admissions during the six months the law was in effect, which is within the 95% confidence interval for the estimate of the effect (a drop of -32.2 to -0.3 admissions)."

The actual observed reduction in heart attacks in Helena was 16, so the prediction of a decrease in heart attacks by 12 is not too far off from the predicted reduction, under these assumptions.

The Rest of the Story

In essence, what the paper is arguing is that the conclusion of the Helena study is plausible because if one assumes that everyone who develops heart disease and suffers a heart attack from secondhand smoke gets heart disease and suffers that heart attack immediately (within 6 months), the observed decline in heart attacks in Helena is about what one would expect.

In other words, the paper **makes the assumption that the effects of exposure to secondhand smoke on heart disease and myocardial infarction are immediate**. There is no time necessary to elapse between exposure and suffering a heart attack.

What this means is that a person who is exposed to secondhand smoke acutely must immediately develop heart disease and be at risk of having a heart attack. The whole process of developing heart disease and suffering a

heart attack must take place **within 6 months** in order for the Helena conclusions to be plausible.

The flaw here is that the paper attributes all of the observed increased risk of myocardial infarction among nonsmokers due to secondhand smoke to an immediate (within 6 months) effect of that exposure, and assumes that none of the effect requires more than 6 months of exposure. Thus, all of the effects of eliminating the increased risk in heart disease attributable to secondhand smoke would be realized within 6 months of a smoking ban.

This is clearly an impossible assumption. It cannot be true.

The evidence demonstrates that the effect of secondhand smoke on heart disease observed in the epidemiologic literature is a long-term effect, that results from chronic exposure to secondhand smoke over long periods of time.

Eliminating secondhand smoke (even if a complete ban on all smoking everywhere were implemented in Helena) would not result in an immediate 30% reduction in heart disease and myocardial infarction. It would take many years to see the effects of such an intervention - probably on the order of 10-20 years, if not more.

I am not taking issue with the assumption that based on the epidemiologic literature, a complete smoking ban would result in a 30% decline in heart disease (and heart attacks) over a 20-30 year period. But I am taking issue with the assumption that such a decline in heart attacks would be observed over a 6-month period. The epidemiologic literature simply does not support such an assumption.

Given that the assumption upon which the paper bases its defense of its plausibility is so preposterous, it basically is the case that the paper does not provide an adequate defense of its plausibility. In my view, the Helena conclusion remains a completely unfounded and implausible one, and it should not be widely disseminated by anti-smoking groups because it is not based on sound scientific reasoning (plausibility is, I think, one of the most important aspects of sound scientific reasoning).

The Next Helena: New Study Concludes that Smoking Ban in Ireland Caused 15% Decline in Heart Attack Admissions

A new **study** presented this week at the annual scientific symposium of the European Society of Cardiology concludes that the smoking ban in Ireland resulted in a 14.5% decline in heart attack hospital admissions during the first year after its enactment.

A Reuters **article** from yesterday boasts: "Heart attacks tumble after Irish smoking ban" and quotes the study authors as arguing that their research demonstrates the need for further smoking bans.

According to the article: "Ireland's rate of heart attacks fell by around a tenth in the year following the introduction of the world's first nationwide ban on workplace smoking, boosting the case for more similar bans, doctors said on Tuesday. Edmond Cronin and colleagues at Cork University Hospital said an analysis of people admitted with heart attacks to public hospitals in southwest Ireland showed an 11 percent fall in the year after the ban came into effect in March 2004."

In a *Telegraph* **article**, the lead study author was quoted as stating: "A national ban on smoking in public places resulted in a decrease in admissions for heart attack, especially in smokers. Our study provides evidence of the rapid effect of banning smoking in public places on decreasing the burden of heart attacks."

The Rest of the Story

What these news articles and quotes do not tell you is that while the study authors compared the number of heart attack admissions in southwest Ireland in the year following the smoking ban with the number of heart attack admissions in the year preceding the smoking ban, they only looked back an additional nine months in order to assess the baseline trend and year-to-year variability in the number of heart attack admissions in this region.

What this means is that there is simply no way to assess whether the observed 14.5% decline in heart attack admissions from 2003 to 2004 was due to the smoking ban or if it was instead due to a pre-existing secular trend in heart attack admissions, or if the change merely reflects underlying variability in the data.

In order to establish the baseline trend in heart attack admissions over time and to assess the degree of year-to-year variability in heart attack admissions, one would need to go back in time much more than simply nine months. Otherwise, these data are virtually meaningless.

For example, the study reports that there were 1277 admissions in 2003 and 1092 admissions in 2004. Suppose that in 2001 there were also about 1280 admissions. This would be consistent with the conclusion that the smoking ban resulted in a significant decline in heart attacks.

However, suppose that in 2001 there had been 1500 heart attack admissions. Then, it would be clear that a 15% decline in heart attack admissions from one year to the next is a common occurrence and that it could not be inferred that the 15% decline from 2003 to 2004 was attributable to the smoking ban.

Complicating matters is the fact that the authors found no decline in heart attack admissions from 2004 to 2005, despite the continued presence of the smoking ban.

In fact, it turns out that there is a secular trend of **sharply declining heart attack mortality** in Ireland. While this doesn't necessarily mean that heart attack incidence is declining, it does suggest that there may have been a trend of declining heart attacks in Ireland even before the smoking ban went into effect.

Cardiovascular disease mortality in Ireland has in fact been falling rapidly. Over the past 15 years, it has **declined by about half**. Some of this decline is due to decreased heart attack incidence. And some of that reduced incidence is due to a drop in smoking rates. All of this happened, of course, before the smoking ban went into effect.

Ischemic heart disease mortality in Ireland decreased by 8.6% in 2003, the year immediately preceding the smoking ban. In 2004, ischemic heart disease mortality declined by only 1.8%.

Does this mean that the smoking ban resulted in an increased rate of death from heart attacks than would have been expected? Of course not. You can't simply look at a change from one year to the next and attribute it to the smoking ban. You have to carefully examine long-term secular trends, variability in the data, and other factors that affect cardiovascular disease

rates.

These problems, however, did not seem to stop the authors of this study from drawing a sweeping conclusion that is completely unjustified by the data which they report. This seems to be par for the course in the tobacco control movement right now. Junk science is passing for perfectly valid science in tobacco control these days.

It will be interesting to see how long it takes for the anti-smoking groups to catch wind of these data and to start spreading these junk science claims widely to the public and policy makers. My guess: it will take only as long as it takes for secondhand smoke exposure to cause hardening of the arteries.

New Research Article Concludes that Smoking Ban in Scotland Caused a 17% Reduction in Acute Coronary Events; Comparing Apples to Oranges

A **study** published in the current issue of the *New England Journal of Medicine* reports that the smoking ban in Scotland resulted in a 17% decline in hospital admissions for acute coronary syndrome (including myocardial infarctions [heart attacks] and unstable angina) (see : Pell JP et al. Smoke-free legislation and hospitalizations for acute coronary syndrome. *N Engl J Med* 2008; 359:482-491).

The study compared the number of admissions for acute coronary syndrome in nine hospitals in Scotland (representing 63% of admissions for acute coronary syndrome in the country) during the 10-month period prior to the smoking ban and the corresponding 10-month period the following year. The number of admissions declined from 3235 to 2684, a drop of 17%.

This 17% drop was compared to the trend in overall hospital admissions in all of Scotland during the preceding 10 years. According to the study, "the trend during the 10 years before legislation was a 3% mean annual reduction, with a maximum reduction of 9% in 2000."

Because the observed 17% reduction in admissions for acute coronary syndrome was much higher than the annual reduction during the 10 previous years and exceeded the highest annual decline between any two years, the study concludes that the observed reduction is attributable to the smoking ban.

The Rest of the Story

The problem with this article is that its conclusion is based on a comparison of apples to oranges. In order to compare the change in heart attacks in Scotland from 2006-2007 to the trend in heart attacks during the preceding ten-year period, one needs to use the same data source to compare these trends.

In this article, the researchers use one source of data to estimate the change in heart attacks from 2006-2007 (observed changes in admissions for nine hospitals representing a portion of the country) and **a different** source of data to estimate the trend in heart attacks from 1996-2006 (national data from the Scottish National Health Service).

A critical basis for the article's conclusion is that the year-to-year decline in heart attacks in Scotland never exceeded 10%, while the researchers found a 17% decline in heart attacks during the year following the smoking ban.

However, the relevant question is not what the national health service data show, but what changes in heart attack admissions would have been found using the same methods employed by the researchers to count heart attack admissions for 2006-2007. What would the annual changes have been using the same 9 hospitals and using the same method of counting heart attack admissions?

It is important to note that:

(1) The diagnosis of acute coronary syndrome in 2006-2007 was based on an assay for cardiac troponin (a component of cardiac muscle which is released into the blood following heart injury), which is a very sensitive test for cardiac injury. For the period 1996-2006, the diagnosis was likely made based on less sensitive measures, since the use of troponin to diagnose coronary syndrome has greatly increased in recent years.

(2) The random variation and secular trends in coronary syndrome for the 10-year period prior to the smoking ban are based on standardized, national data which include the entire country of Scotland. Thus, the variation is likely to be much lower than the variation in the data from a sample of just 9 hospitals.

The correct way to conduct this analysis would be to examine the trends in heart attacks in all of Scotland for the entire ten-year period using a single, standardized and consistent data source and then to examine the degree of random variation in year-to-year changes in heart attacks and see if the observed change associated with the smoking ban is inconsistent with the magnitude of observed year-to-year changes during the years preceding the smoking ban.

Fortunately, the annual data on heart attack admissions in Scotland is available **online**, so we can examine the magnitude of year-to-year changes in heart attacks in the past decade and see how the change associated with the smoking ban compares.

Remember that the smoking ban was implemented in March 2006, so changes from 2005 to 2006 would reflect the smoking ban, as would changes from

2006 to 2007.

Between 2005 and 2006, the number of heart attack admissions in all of Scotland declined by 4.2%. Between 2006 and 2007, the number of heart attack admissions in Scotland dropped by 8.0%.

That might sound like a big drop, large enough that we would conclude it was due to the smoking ban.

However, look at the year-to-year declines in heart attacks in Scotland in years prior to the smoking ban.

Between 2003 and 2004, heart attack admissions declined by 4.6%. This is greater than the observed heart attack decline from 2005 to 2006.

Between 1999 and 2000, heart attack admissions in Scotland declined by 10.2%. This is much greater than even the 8.0% decline observed from 2006 to 2007.

Even if we look at the 2-year decline in heart attacks from 2005 to 2007, it is about the same as the 2-year decline observed bewteen 1999 and 2001 (11.9% compared to 10.7%).

If I present the data this way, it makes it clear that the observed change in heart attacks associated with the smoking ban is not at all out of the range of normal declines in heart attacks from year to year in Scotland observed in the absence of the smoking ban.

2005-2006: -4.2% 2003-2004: -4.6%
2006-2007: -8.0% 1999-2000: -10.2%

My point here is not that these data prove there was no decline in heart attacks in Scotland attributable to the smoking ban. My point is merely that there is no way one can conclude that the observed decline in the year following the smoking ban was different from the magnitude of the declines observed in previous years.

The analysis in this paper assumes that the entire observed change in heart attacks is attributable to the smoking ban. However, it is clear that a 10.2% decline in Scotland from 1999-2000 occurred in the complete absence of a smoking ban. Clearly, there are other factors which are contributing to a

decline in heart attacks, there is a secular trend of substantially declining heart attacks over time, and in fact, the magnitude of the decline associated with the smoking ban is less than the magnitude of the decline observed in some recent years preceding the smoking ban.

In other words, one cannot rule out the very plausible alternative hypothesis that the observed decline in heart attacks is explained by random variation in the data and the already existing secular trend of declining heart attacks in Scotland.

Surgeon General and Anti-Smoking Groups Sensationalizing Facts to the Point of Inaccuracy; Why?

It is becoming increasingly difficult for me to be able to trust information I receive from anti-smoking groups. And it's not just the fallacious claims from some groups that 30 minutes of secondhand smoke causes hardening of the arteries. As we found out last week, even the Surgeon General apparently can no longer be trusted to provide accurate information, as he told us all that just a "**brief exposure**" to secondhand smoke is all that it takes to cause heart disease and lung cancer. And yesterday, another anti-smoking group told us that the Florida Supreme Court's reversal of the $145 billion verdict against the tobacco companies and decertification of the class was a "**devastating blow**" to the tobacco companies.

It seems that it is becoming impossible for anti-smoking groups to communicate information to the public without overly sensationalizing it, spinning it, or distorting it to the point that it becomes misleading. Why is this? Why can't these groups simply call a spade a spade and report information to the public in an unadulterated fashion? Why do they apparently feel a need to distort everything to suit some perceived need? Why doesn't the simple truth cut it anymore?

The Rest of the Story

I can only speculate. We live in an age where there is so much exposure to the media and most of it comes in sound-bite fashion. Scores of news headlines hit you every time you turn on your computer. They flash across the screen when you turn on your television. They overwhelm you when you are trying to make it through your email. Our attention is very short - if something can't be said in 5-8 seconds, it's too long for us to pay attention to. We want the bottom line and we want it instantly.

With all the media clutter that surrounds us, it is increasingly difficult for public health groups to break through with their messages. Perhaps there is a perception, on the part of anti-smoking groups, that in order to be heard they have to produce sensational headlines. It is not enough to say that chronic exposure to secondhand smoke is hazardous. You have to say that just 30 minutes of secondhand smoke can kill you. It is not enough to say that brief exposure to secondhand smoke has effects on the cells lining the coronary arteries. You have to say that brief exposure is enough to cause heart disease and lung cancer. It is not enough to say that the Florida Supreme Court

decision in Engle is a tremendous victory for Big Tobacco, but that individual lawsuits can still proceed and could result in substantial damages. You have to say that the decision was a devastating blow to the tobacco companies.

Our society, and especially the way we present information, has become increasingly polarized. There is no more middle ground in public communication. It's all or nothing. Either secondhand smoke kills instantly, or we don't perceive the information as being adequate to be communicated to the public. Either a court decision is the best thing to happen to anti-smoking efforts since sliced bread, or the facts are not worthy of being reported as they are.

Everything is black and white. The tobacco companies are evil. Anti-smoking groups are angelic. And anyone who opposes tobacco control measures or criticizes anti-smoking groups is evil.

Secondhand smoke must be banned everywhere. We can't stop at the workplace, or in outdoor places where people cannot avoid the smoke, or even in all outdoor places. We must invade into the car and home and eliminate all traces of secondhand smoke. If you oppose any of this, you are a tobacco stooge. And if you happen to be an anti-smoking advocate and they know you don't take tobacco money, then you're simply a traitor.

Exposing children to secondhand smoke is not just one example of a risk that parents expose their children to. Instead, it's child abuse.

Smokers are not individuals who have made a decision to engage in an unhealthy behavior, though one which they find enjoyable or gain some other perceived benefits from. Instead, they are social outcasts who are a drain on society and are undeserving of employment.

The polarization has become extreme. And it has pervaded all aspects of our work in tobacco control.

But nowhere is it so striking as it is in our public communications. You have to take everything to the absolute extreme or it's apparently not perceived as being worthy of being communicated, even if it's the truth.

The problem, however, is that once you start going too far, your public claims no longer jive with people's observed experience. And that's when people start to reject your claims and you lose your credibility and the public's trust.

That was the mistake Bush made in promoting the Iraq war. He was able to convince the majority of us that Saddam Hussein was a substantial threat to our security because of his weapons of mass destruction. But when those were nowhere to be found and we were then told that we had to keep fighting because Iraq still represented a threat to our freedom and security, it no longer was consistent with our observed experience. Public support began to fall, as did the public's trust in the president.

The same mistake was made with respect to eavesdropping on our telephone conversations. Up to a point, we could accept that there was some need to protect us from terrorist threats and that potential plots could be uncovered by tapping our conversations. But when the intrusion was done indiscriminately and involved people and issues that clearly had nothing to do with national security, the claim that this degree of intrusion into our privacy was necessary to protect us from terrorism no longer jived with our observed personal experience.

And so it is with the Surgeon General's claims. He's telling us that even a brief exposure to secondhand smoke is enough to cause heart disease and lung cancer, but that simply doesn't accord with people's observed experiences. They fail to see people around them keeling over from heart attacks after 30 minutes of exposure to drifting tobacco smoke exposure, and so they will discount the Surgeon General's claims. But with that discounting will necessarily come the discounting of the Surgeon General's credibility and the loss of the public's trust.

The same is true, I believe, with other anti-smoking groups that are making similar claims.

And the same is true with groups like the Tobacco Control Resource Center, which is the group telling us that the Florida Supreme Court's decision to throw out the $145 billion verdict against Big Tobacco is a devastating blow to the companies. People's observed experience is that Philip Morris stock rose by more than $5 today, more than a 7% increase in stock value in one day. That experience simply doesn't fit with the claim that this decision was a devastating blow to Big Tobacco. So people are going to reject the Center's claim. And won't they be less likely to put their trust in the Center's communications about the outcome of tobacco cases in the future?

Just as much of the public has learned to discount President Bush as a reliable

source of accurate and unadulterated information on critical issues that affect us, I fear that much of the public will also learn to discount the tobacco control movement as a reliable source of information about smoking and health, legal, and policy matters.

Sensationalizing the facts in order to try to capture the attention of the public may appear to be the most prudent course of action in the short run, but in the long run, it will only hurt our credibility and erode the public's trust in us as a reliable source of information.

IN MY VIEW: Why the Tobacco Control Movement Seems Unable to Produce Solid Scientific Communications

In past weeks, I have exposed the story of anti-smoking groups widely disseminating completely false information about the effects of secondhand smoke (**ASH** fallacious claims; **SmokeFreeOhio** fallacious claims; **ANR** fallacious claims; **25 more anti-smoking groups'** claims; **16 more groups'** claims; **British Heart Foundation** fallacious claim).

Here I address the question of why it is that the tobacco control movement seems to have lost its ability to screen out inaccurate and misleading public communications about the scientific issues underlying their efforts to promote smoke-free policies.

The Rest of the Story

I think the fundamental reason for the loss of the movement's ability to ensure the scientific integrity of its communications is that it has been overcome by a mentality that has destroyed its internal gatekeeping ability.

Let me explain.

In most areas of public health in which I have been involved, there is a strong system of "checks and balances" by which scientific communications are screened internally both before and after they are made.

Before they are made, health claims of potentially extreme consequence are screened by experts in the field to make sure that they are valid and that there is sufficient documentation to back them up. After they are made, experts in the field feel comfortable refuting the statements if they view them to be false. Thus, there is a constant pressure on advocates to ensure that their statements are accurate before they make them.

This is the situation that I believe existed in the tobacco control movement (and I observed and took part in its existence) up until the past few years. In the past, when I have worked with tobacco control groups, I have observed an extreme level of care and concern in developing public communication materials. Everything had to be well-documented and the mentality was one by which we could not take chances, because the tobacco industry was out there "waiting for us" and would refute any undocumented claims that we

made. Everyone seemed to be scared of saying anything that might be inaccurate for fear that the tobacco industry would pounce on us and discredit us.

In fact, in many situations, I felt that the degree of scrutiny was far too strong and that a number of statements that I thought should be made were "toned down" because of fear of a slight possibility of misinterpretation, and therefore attack by the tobacco industry. The fear of being discredited publicly was a paramount concern in everyone's mind.

In addition, most of the people working at the organizations with which I collaborated were life-long advocates, mostly unpaid volunteers. They were not particularly skilled at (or slick) public relations, and therefore, almost all potential communications were reviewed by experts in the field before they went public.

But three major changes have taken place in recent years.

The first is the tobacco industry's fall from grace and loss of its ability to effectively discredit tobacco control groups. Largely due to its own legal problems and the fact that it started losing tobacco lawsuits and was forced to release millions of damning internal documents, the tobacco companies were put on the public relations defensive, rather than the offensive, and the threat of being discredited by tobacco companies was all but removed from the picture. In addition, I believe the tobacco companies have made a decision to be far less aggressive in intimidating and threatening tobacco control groups and have largely been leaving groups to conduct their business without interference.

The second major change is the conversion of the movement from a grassroots (and largely volunteer), social movement to a highly institutionalized, heavily-funded, and overly centralized establishment. Our public relations capacity greatly increased and we now have professional (and slick) public communications expertise. The focus has thus shifted from the integrity of the science to the impact of the potential communications. The priority is to put out the most dramatic, striking, and impactful communication rather than the most accurate, sound, and unassailable scientific statements.

The third change, and the most important in my opinion, is the development of a new mentality - one by which dissent is not allowed and there is no room

to disagree with or challenge any of the established dogma of the movement. But what constitutes the "established dogma" of the movement is simply anything that any tobacco control group has stated. If even one group makes a health claim, that becomes the "established dogma" and it cannot be challenged internally.

There is truly no room for any dissent. Anyone who challenges the established dogma is instantly accused of being a tobacco industry mole, a traitor, or a lunatic who has gone over to the "dark side." Advocates are afraid of speaking out to voice any criticism or disagreement with the dogma of the movement specifically because they are afraid they will be viewed negatively. And their fear is probably a well-founded one, based on my own experience.

In this way, the movement has lost its internal gatekeeping mechanism. You can't have an internal gatekeeping ability or any semblance of checks and balances when it is literally impossible for anyone within the movement to challenge a public statement once it has been made.

I cannot tell you how many times advocates have responded to my challenging of inaccurate scientific claims not by discussing the validity of those claims, but by castigating me personally for bringing the truth to the attention of the public. Apparently, the appropriate procedure in the movement is to quietly, secretly, and individually send a note to the relevant groups (even though that would take no less than 45 different letters I'd have to write) to suggest that perhaps they might have made a slight overexaggeration, and then to forget about it and move on to more important things. And that's the response I get from those who do not accuse me of being a traitor or tobacco stooge or having "changed" or gone to the dark side, or being a discredit to the movement.

The internal gatekeeping function of a movement is lost when there can be no internal challenge to the doctrine. Because criticizing a group within the movement is viewed as being traitorous, all it takes for a particular health claim to become doctrine is to make the claim publicly once. Thus, when one group of researchers made the absurd and completely implausible claim that a smoking ban reduced heart attacks by 40% within 6 months, that instantaneously became the prevailing wisdom of the movement, and any challenge to that wisdom instantly became prima faciae evidence of disloyalty to the movement.

Similarly, when a couple of anti-smoking groups completely botched the interpretation of the Otsuka study and mistakenly claimed that it showed that 30 minutes of secondhand smoke exposure could cause atherosclerosis and heart attacks in healthy nonsmokers, this claim became the dogma of the movement, and no longer subject to questioning from within.

I believe that the combination of these three factors has led to the near complete destruction of the tobacco control movement's ability to regulate its own scientific claims.

Whereas the threat of being discredited by the tobacco industry was previously a strong force helping to ensure accuracy in our communications, that force is now all but gone. And there is no threat of being discredited from within because the movement has removed that threat by creating a climate in which no dissent can be expressed from inside the movement without severe repercussions. The only check remaining in the system is the possibility that some external group might put up a fuss, but that's hardly a problem since that group will simply be dismissed as a tobacco industry front group anyway.

The end result: there is really nothing to keep the system in check. It is basically a free for all. Groups can say just about anything they like and they are essentially protected from being held responsible for any inaccuracies, due to an intricate, yet well-functioning system of group-think by which there cannot be any internal wrongdoing (or if there is, it can just be dismissed and the attack will be re-directed towards the individual making the claim of inaccuracy).

Something needs to be done to fix this system. While my priority right now is to try to get groups to correct the inaccurate claims and apologize for misleading the public, in order to save the credibility of the movement, my hope is that some critical attention will be given to reforming the mentality of the movement and confronting the factors that have made this breach of the public's trust possible.

Enstrom Cleared of Scientific Misconduct Charges; American Cancer Society Owes Him An Apology

After an internal investigation, the University of California has **cleared** UCLA professor and epidemiologist Dr. James Enstrom of all **charges** of scientific misconduct - charges that were leveled by the American Cancer Society.

According to an **article** in a recent issue of *Nature*, the American Cancer Society (ACS) had accused Dr. Enstrom of scientific misconduct in his role in a 2003 *British Medical Journal* study which questioned the link between secondhand smoke and lung cancer among nonsmokers.

That article - which used data from the ACS Cancer Prevention Study and found no significant increase in lung cancer risk associated with exposure to spousal smoking - has received massive publicity, serving as the focal point for a campaign to eliminate tobacco industry funding of research at the University of California.

According to the article, the accusation from the ACS prompted an internal University investigation to determine whether any scientific misconduct occurred:

"The latest round of debate began last autumn when the chief executive of the American Cancer Society, John Seffrin, wrote a letter to the University of California's board of regents arguing that tobacco funding should be banned. In the 12 October letter, Seffrin argued that tobacco-funded front groups "publicized misleading results" while giving "the false implication" that the society had endorsed the study. He cited Enstrom's *BMJ* article in particular, alleging that Enstrom "ignored" complaints of "fundamental methodological problems". ... Wyatt Hume, provost at the University of California's president's office, wrote to Seffrin saying that the university "takes allegations of scientific misconduct extremely seriously". If there is "specific information in support of an allegation of scientific misconduct against Enstrom", he wrote, he would relay it to officials at the Los Angeles campus so that they "can pursue the matter further". Shortly after, officials at the cancer society sent a seven-page list of what they cited as issues with the *BMJ* article."

Both authors of the study -- Dr. Enstrom and Dr. Geoffrey Kabat, formerly of SUNY Stony Brook, vehemently denied any scientific misconduct:

"In an interview, Enstrom acknowledged receiving the various letters and corresponding with the University of California's authorities. "I am working on this with regents' approval," he said. "I am being allowed to defend myself by the appropriate people." He "absolutely" denies any misconduct in the study. And Kabat objects to the university's regent policies being based "on allegations motivated by a political agenda and unsupported by any facts"."

The internal investigation failed to find any evidence of scientific misconduct. Dr. Enstrom was officially cleared in a March 22 **letter** from UC Provost and Executive Vice President for Academic and Health Affairs Wyatt R. Hume, who wrote:

"Chancellor Abrams initiated a thorough review of the materials forwarded by Dr. Thun. He asked two senior campus officials, both of them scientists, to independently review the materials. Both officials independently reached the conclusion that these materials provide no evidence of scientific misconduct."

"The materials Dr. Thun provided reflect the robust debate in the scientific literature about the research methodologies used by Dr. Enstrom in conducting the work that was the basis for the 2003 article published in the British Medical Journal. Disagreements regarding research methodology, and disputes about the soundness of scientific conclusions do not, however, constitute scientific misconduct. There is room for vehement and heartfelt disagreement about the soundness of particular scientific analysis and conclusions, and the scientific and academic community has well-established mechanisms for judging which results are ultimately deemed to withstand lose and sustained scientific scrutiny."

The Rest of the Story

As I stated in my **commentary** on this issue, the presence of deficiencies in research (taking the ACS position to be true) and the publication of results that do not accord with the views of others does not represent scientific misconduct. Taking money from the tobacco companies is not scientific misconduct. While the ACS has every right to criticize the methodology of the study and dispute its findings and conclusions, it is inappropriate to attack the researcher - and to charge him with scientific misconduct - rather than to focus on the research.

In this case, there was no scientific misconduct. Since Dr. Enstrom has now been cleared of these charges, I believe that the American Cancer Society

owes him an apology.

In the academic community, scientific misconduct charges are taken very seriously and these charges could literally ruin someone's career. Thus, if a group ends up falsely bringing scientific misconduct charges against a researcher, they certainly owe him an apology for making what turns out to be false charges that could have ruined his career.

What the American Cancer Society has done amounts to character assassination. If they want to criticize the research itself, point out methodologic flaws, or attack the tobacco companies for using this kind of research in a campaign to undermine public health messages about the harms of smoking or secondhand smoke, then that's fine. They have every right to do that. But to issue the attack on the individual researcher and attempt to denigrate the character of that individual by making what amount to false allegations of scientific misconduct is not appropriate.