

A person wearing a white lab coat is holding a lit cigarette. The cigarette is lit, and a small amount of smoke is visible. The background is a soft, out-of-focus blue and white. The overall tone is professional and clinical.

# Science, Prudence, & Politics:

## The Case of Smoke-Free Indoor Space

Based upon:

Science, prudence, and politics: the case of smoke-free indoor spaces.

Widome R, Samet JM, Hiatt RA, Luke DA, Orleans CT, Ponkshe P, Hyland A.

Ann Epidemiol. 2010 Jun;20(6):428-35.

# Overview

- History of the development of evidence and policies related to secondhand smoke (SHS) exposure
- Tobacco industry opposition efforts
- Research agenda shaped by opposition
- Detail SHS policy in New York
- Discovery to delivery process illustrated
- Major lesson: Clear scientific evidence does not automatically lead to optimal policy

# History of epidemiologic evidence on dangers of SHS

- Smoking permitted anywhere most of 20<sup>th</sup> century
- 1971 – first Surgeon General's Report proposed government ban on smoking in public places in response to the risk of smoking and pregnancy
- 1972 – Surgeon Generals Report identifies SHS exposure as health risk

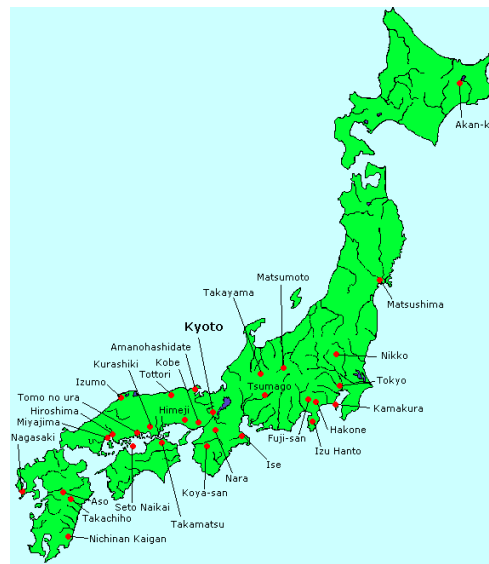
Even at the French heart transplant survivors reunion!



THE 4 FRENCH HEART TRANSPLANT PATIENTS MEET AT THE PALAIS de CHAILLOT

# History of epi evidence cont'd

- Studies link SHS exposure to increased risk for illness including respiratory illnesses in infants and children
- 1981 – Hirayama et al. study documents higher lung cancer rates in Japanese women married to smokers than those married to non-smokers



- 1986 – Surgeon General's Report states that SHS causes lung cancer in non-smokers



# History of epi evidence cont'd

- 1992 – EPA concluded exposure to SHS is serious public health threat and classified SHS as Group A carcinogen
- 1994 – Fontham study, noted for size and rigor, confirmed SHS exposure threatens health
- 2006 – Surgeon General report made it clear that SHS causes lung cancer, heart disease, other illnesses in non-smokers

**“The debate is over.”**  
says US Surgeon  
General Richard  
Carmona,  
**“The science is clear...”**

# The Health Consequences of Involuntary Exposure to Tobacco Smoke

A Report of the Surgeon General



Department of Health and Human Services



# The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General (2006)

- Passive smoke exposure is a cause of cardiovascular disease, cancer, and respiratory disease
  - > Nonsmokers who are exposed to passive smoke at home work increase their risk of developing heart disease by 25 – 30% and lung cancer by 20-30%
- “The scientific evidence indicates that there is no risk-free level of exposure to secondhand smoke”

U.S. Department of Health and Human Services, 2006.

The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General.

Rockville, MD

# Policies to limit SHS exposure

- 1975 AZ, CT, MN implement first policies requiring smoke-free public spaces
- After 1986 Surgeon General's Report wave of smoke free policies began to gain momentum
- 1995 CA became first state to require smoke-free restaurants, policy expanded to bars in 1998

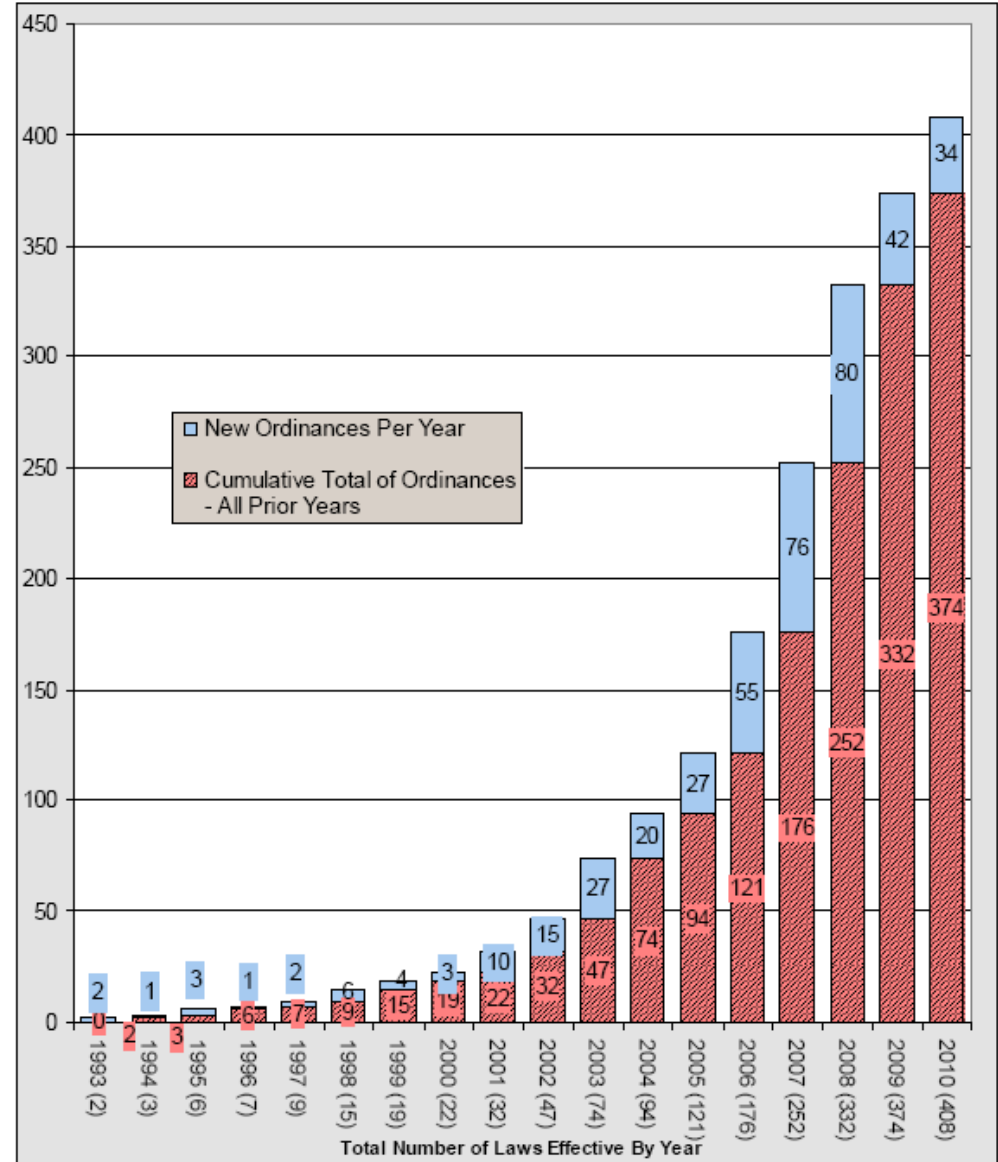


July 5, 2010

\* As of July 2010, in the US there were 408 ordinances that prohibit smoking in all indoor bars, restaurants, and workplaces.

Source: <http://no-smoke.org>

Local 100% Smokefree Laws in all Workplaces,\* Restaurants,\*\* and Bars: Effective by Year



Only municipalities with ordinances or regulations that have effective dates through 2010 and do not allow smoking in attached bars or separately ventilated rooms and do not have size exemptions are listed here.

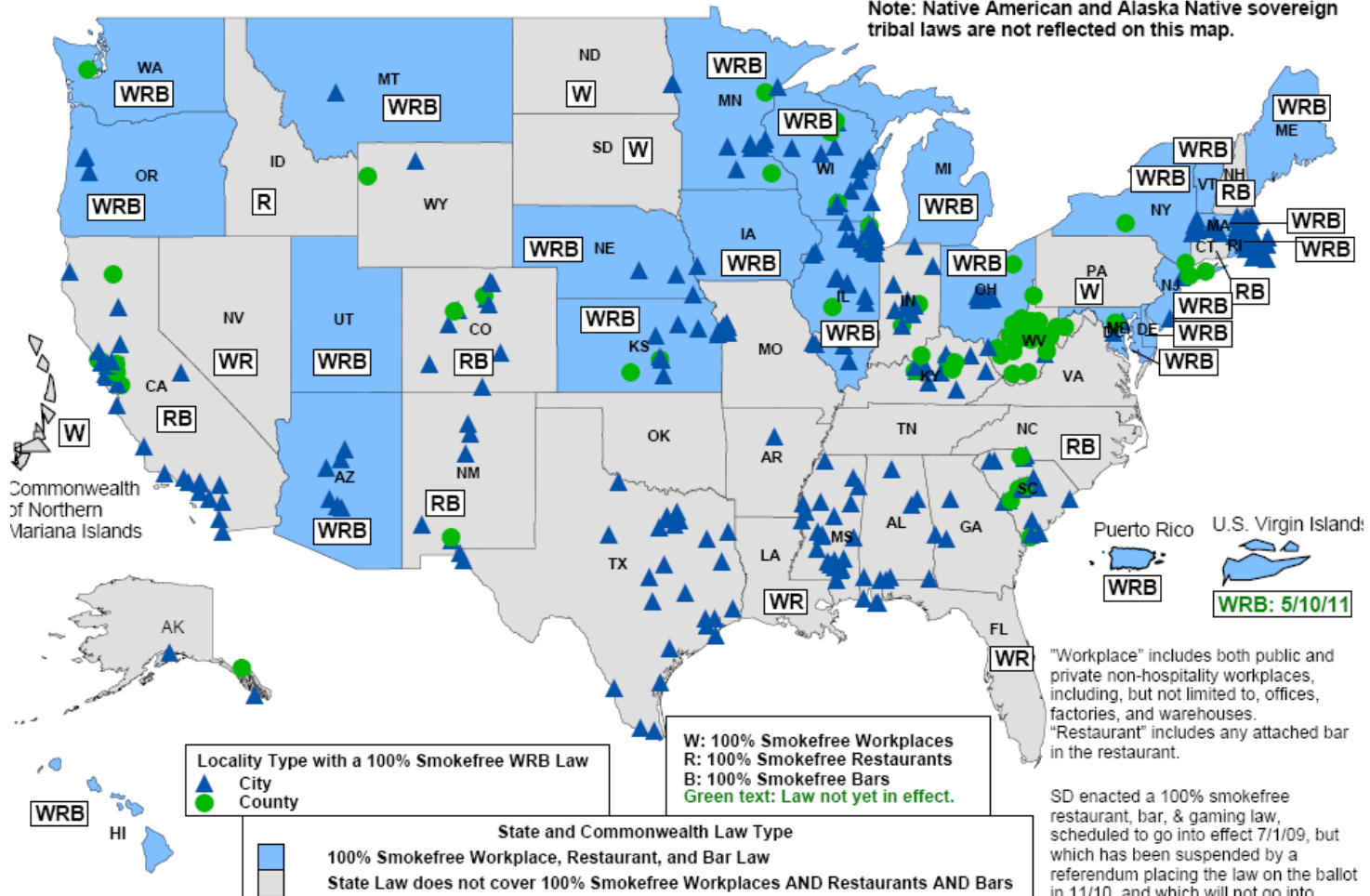
As of July 2010, 47% of the US population lives in a municipality where smoking is prohibited in indoor bars, restaurants, and workplaces.

## U.S. 100% Smokefree Laws in Workplaces AND Restaurants AND Bars

American Nonsmokers' Rights Foundation

As of July 5, 2010

Note: Native American and Alaska Native sovereign tribal laws are not reflected on this map.



# Policies to limit SHS exposure

- Today over 3,000 jurisdictions have smoke-free workplace, restaurant, or bar laws
- Half of U.S. lives in a municipality or state with indoor public space smoke-free law
- Policies rest on principle that workers should not be required to inhale toxic substance
- Smoke-free spaces progress would not be as successful if not for epidemiologic evidence

# Opposition Efforts

- 1950s tobacco industry began opposition efforts
- Tobacco industry repeatedly tried to dispel notion that SHS causes disease
  - Funded efforts that counter research, instill doubt
  - 1992 EPA decision and likely OSHA consequences prompted strong tobacco industry campaigns, organized to promote their findings as “sound” and other evidence as “junk”

# Opposition Efforts

- Worked to strengthen the evidence and support smoke-free policies as arguments were turned into research questions
- Such as:
  - “the public does not support these policies”
  - “enforcement of policies will be difficult”
  - “businesses would suffer”

# Eateries say ban on smoking is killing them

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By CRAIG SCHNEIDER  
ADVANCE STAFF WRITER

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Many Staten Island restaurants appear to be obeying the new law to extinguish smoking. But some owners are afraid that, instead of cigarettes, their profits are going up in smoke.

"Business is slipping. People like to come in here and have a cigarette and some coffee. Now they can't," said Suzette Linde, manager at Mike's Place in New Dorp. "Some people are going outside for a smoke. So now we're getting complaints about cigarette butts in the street."

Several restaurant owners said they've seen business fall off 10 percent or more since the ban on butts. And they worry there are more blows to come.

Nineteen of 20 Staten Island restaurants visited at random by the Advance yesterday appear to be obeying the city's new anti-smoking ban. Ashtrays are off the tables, no-smoking signs are posted, and waitresses are regularly



# Eatery owners fume as \$\$ go up in smoke ban

## Cite studies on major loss of biz

By LINDA MASSARELLA  
and JULIA UMB

Angry restaurateurs yesterday vowed to storm the city Health Commissioner's office after two surveys showed restaurants have taken a major hit because of the city's smoking ban.

The restaurateurs will meet with Health Commissioner Margaret Hamburg next Tuesday to air their complaints.

"It's an economic survival issue for all of us," said Joan Borkowski, a non-smoker who runs Billy's Tavern in Midtown.

The decision came after surveys by the National Smokers Alliance and the New York Tavern and Restaurant Association found that 51 percent of the restaurants suffered a drop in sales since the ban became law 30 days ago.

Both surveys showed restaurants had lost business by about 15 percent.

The alliance surveyed 1,000 restaurants and the



Susan May Tell

**THEY'D RATHER FIGHT:** Angry restaurant owners — many smoking in open defiance of the law they despise — share stories of lost customers and plunging profits at the Roosevelt Hotel yesterday.

Tavern and Restaurant Association, said he'd expected the worst.

"These results are not surprising as our colleagues around the country have

Nicholas Ambros, who owns the Oasis Cafe in Flushing, Queens, said the ban hurt most at night.

"We have 200 seats there and now at night it's mostly

## CITY'S NOT HUFFING TO SNUFF PUFF GRIPES

# Opposition efforts

- These opposition concerns have been demonstrated to be false in community after community
- SHS policies are:
  - Supported by the public
  - Enforceable
  - Do not harm a community's hospitality economy
- Currently the debate centers around public health versus private rights

# How much evidence is enough?

- Evaluation of potential for harm inevitably associated with some uncertainty
- Amount of evidence necessary to motivate action differs by purpose
- According to Gostin's multiple step model, the level of risk needed to justify an intervention depends upon the potential burdens that intervention places on society

# New York State, an example

- Smoke-free indoor workplaces except restaurants and bars during the 1990s
- Introduction of bill to ban smoking in dining areas of restaurants with 50 + seats
- 3 public hearings and small modification (35 fewer seat restaurants exemption) helped pass the bill
- Law effective April 1995

# New York State

- Arguments which supported smoke-free law:
  - SHS is health hazard
  - Current law does not protect workers, patrons from SHS
  - Law would have no adverse economic impact on restaurants
- Opponents shifted argument to new issues:
  - Ban would be bad for business
  - Law was unnecessary, unfair, impossible to enforce

# New York State

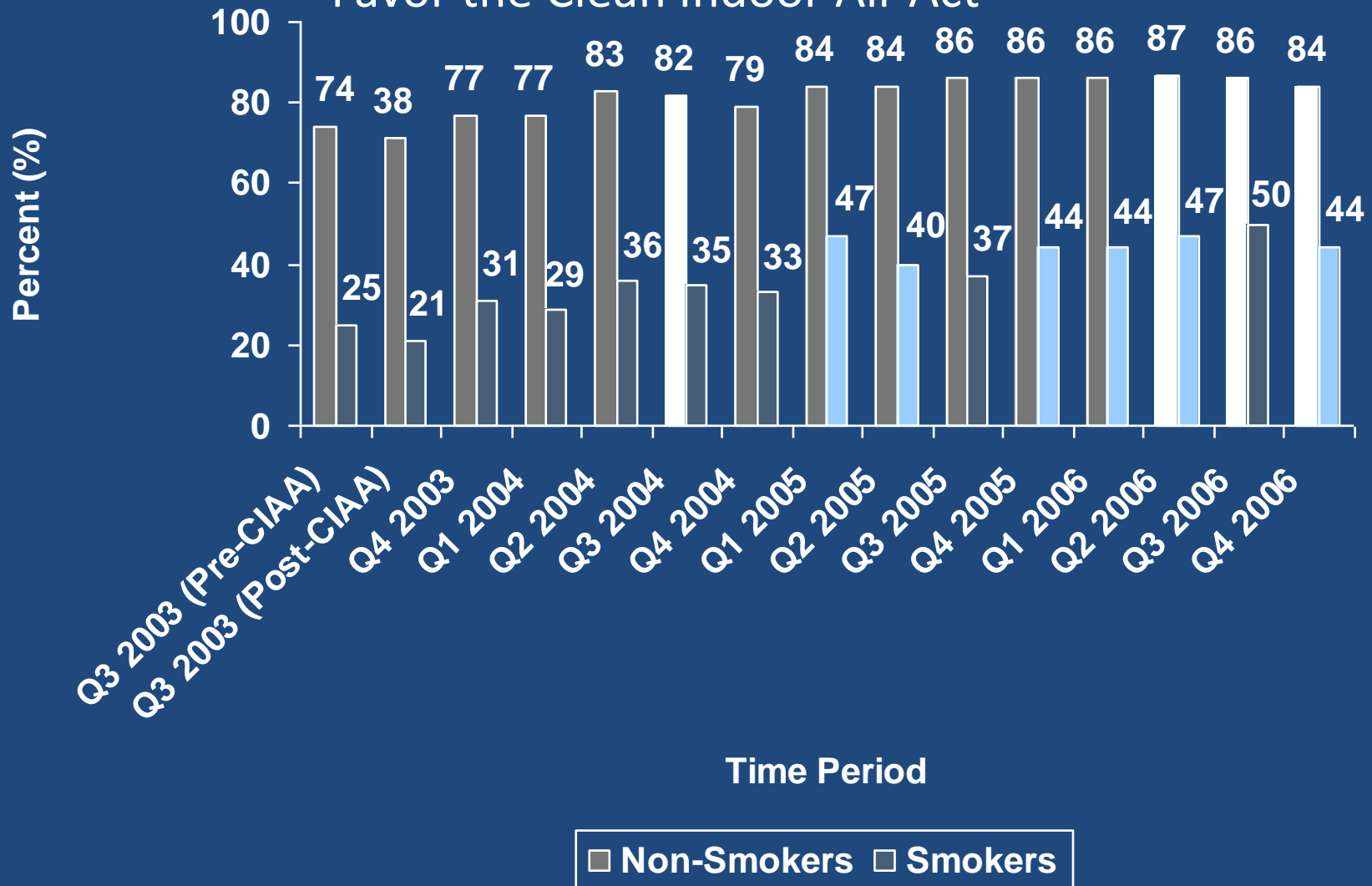
- At the time there was:
  - Only one published study on economic outcomes of smoke-free laws and it concluded there were no adverse effects
  - No published studies on compliance issues
- Testimonials demonstrated support for smoke-free law and that little additional resources were be necessary to enforce the law

# New York State

- Studies showed
  - people supported the law
  - little expense associated with adoption of new law
  - and that business actually benefited from law
- Follow-up studies strengthened evidence showing SHS policy and health promotion and paved the way for future policy adoption in other communities
  - Hospitality workers had lower urinary cotinine levels after ban
  - Fewer hours of total SHS exposure and less sensory irritation

# Public Support

Percentage of New York State Adult Smokers and Non-Smokers Who Favor the Clean Indoor Air Act

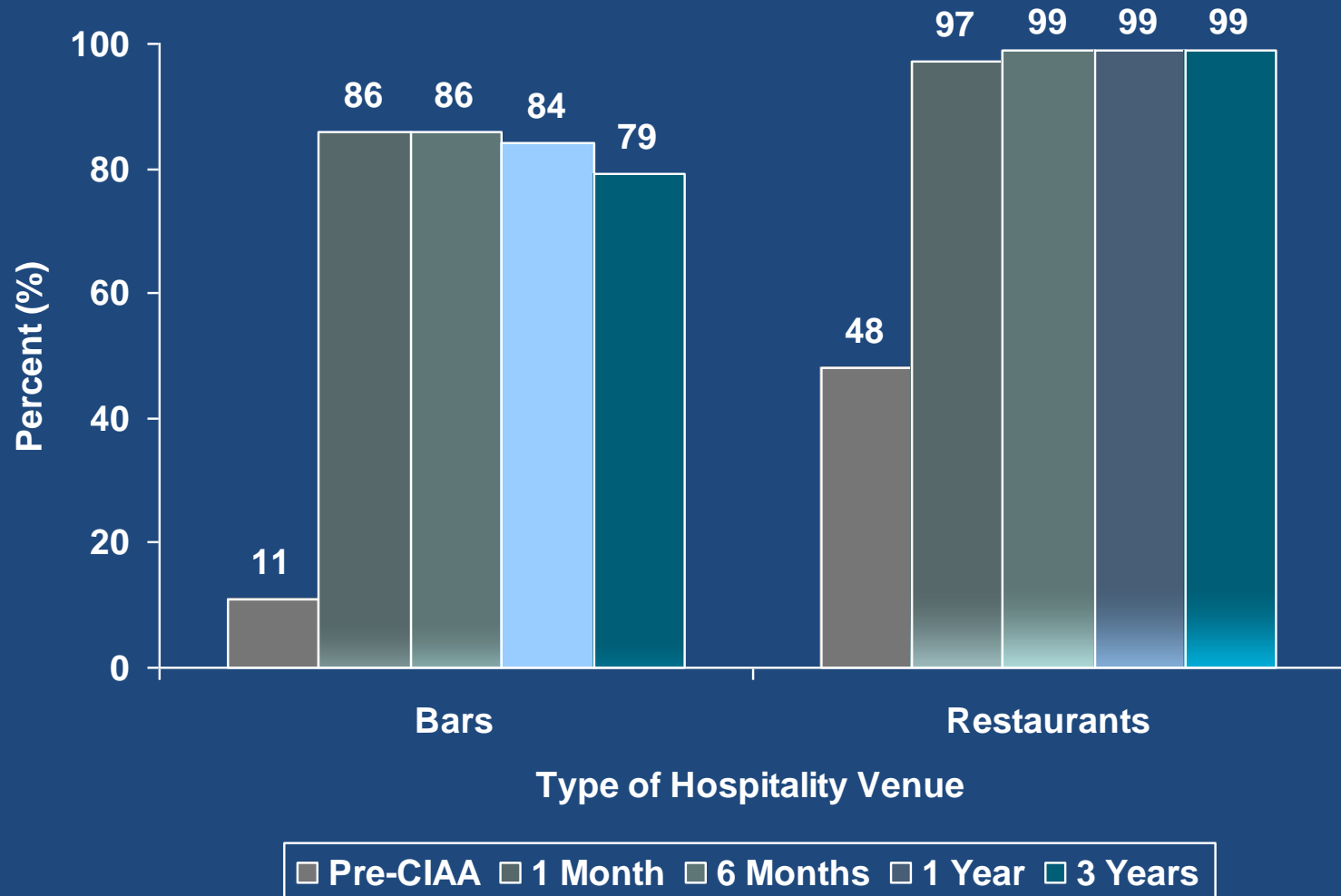


Source: NY DOH. The Health and Economic Impact of NY's Clean Indoor Air Act. 2006.



# Compliance

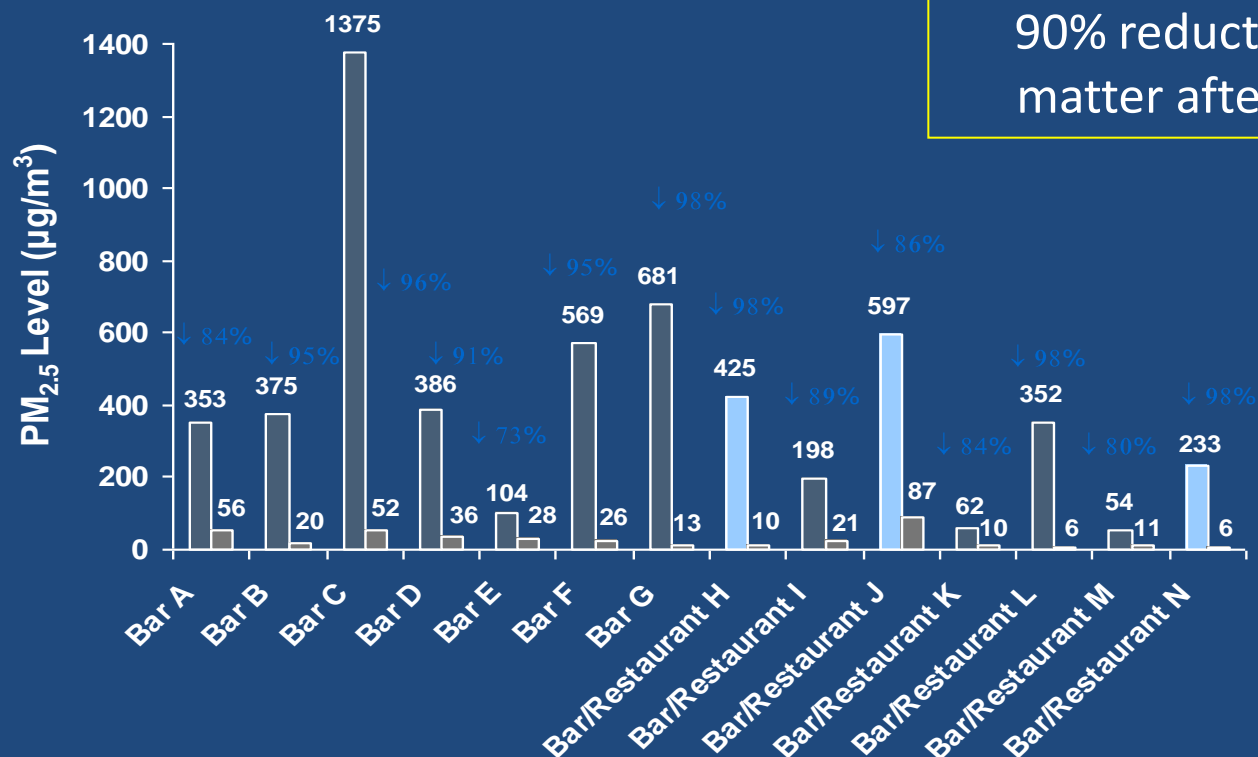
Percentage of New York State Hospitality Venues That Were Smoke-Free Before and After Implementation of the Clean Indoor Air Act.



Source: NY DOH. The Health and Economic Impact of NY's Clean Indoor Air Act. 2006.

# Air Quality

Change in Air Quality in Erie and Niagara County Bars and Restaurants After Implementation of the Clean Indoor Air Act.



Pre-CIAA Post-CIAA

Source: Travers MK, et al. MMWR, 2004.

- Data from air monitoring studies is used to educate the public about the dangers of secondhand smoke.
- News articles
- Editorial support

ST. PETERSBURG TIMES  
ST. PETERSBURG, FL  
SUNDAY 442,348  
MAY 23 2004

HEALTH & MEDICINE

Student roams night sampling air in bars

Baltimore Sun 7523

Since the end of March, the 28-year-old doctoral student at the University at Buffalo has spent 10 nights in 53 watering holes in seven cities — East Coast and West — covertly measuring indoor air pollution, sometimes until the wee hours of the morning.

Sure, he got a lot of beer and some burgers out of the deal, but that doesn't make up for the occupational hazard.

"Spending eight hours in smoky places, it wasn't all that pleasant," said Mark Travers, who is working on a dissertation about the effects of the smoking ban in New York. "My clothes would stink. It was hard to get in to work as early as I normally would. I did come home a few nights with some headaches."

The results of Travers' cross-country pub crawl, released Thursday, confirm what may seem absurdly obvious: The level of indoor air pollution in venues where smoking is allowed is greater than it is where the law prohibits lighting up. But how much greater?

The answer, in short: a lot.

The study, conducted by researchers at the Roswell Park Cancer Institute in Buffalo, found that cities without smoke-free laws had nearly six times the level of pollution as those with enforce-

whatever, and you spend about a half an hour or hour, and you go to the next place and do it again," said Andrew Hyland, a Roswell Park research scientist who was the study's lead investigator.

Travers took most readings on Thursdays, Fridays and Saturdays between 6 p.m. and 3 a.m., spending an average of 47 minutes in each establishment (though he stayed 139 minutes in one). He counted the number of people — and burning cigarettes — and used an ultrasonic ruler to determine the size of the room.

All the while, the aerosol monitor did its work. The device, about the size of two soda cans, uses a built-in pump to draw air through a tube that, in Travers' case, stuck out of his bag. He used the monitor to record the average level of pollution at one-minute intervals.

In Baltimore, Travers visited eight bars and restaurants. The average level of particulate matter — which is released into the air from burning cigarettes as well as cooking — was 293 micrograms per cubic meter of air. Compare that to the acceptable exposure level set by the U.S. Environmental Protection Agency, which is 15.

Secondhand smoke contains more than 4,000 chemicals, including at least 60 carcinogens. Federal officials estimate that secondhand exposure causes about

LEADER  
CORNING, NY  
FRIDAY 13,086  
MAY 21 2004

NO SMOKING | STUDY:

Ban lowers indoor air pollution

7528

THE ASSOCIATED PRESS

**BUFFALO** | Cities with indoor smoking bans have dramatically lower indoor air pollution than cities that allow patrons to light up in bars and restaurants, according to a study released Thursday.

Researchers at the Roswell Park Cancer Institute in Buffalo conducted air quality tests in 53 venues in seven major U.S. cities, and found that indoor air pollution was an average of 82 percent lower in smoke-free cities.

The results appear in line with several smaller studies that showed a decrease in air pollution in cities that pro-

CLEANER CITIES

Here's a list of the cities surveyed and the average level of indoor air pollution measured in micrograms per cubic meter:

- New York City, 25
- Buffalo, 27
- Los Angeles 94
- Hoboken, N.J., 231
- Philadelphia, 254
- Baltimore 293
- Washington, D.C., 392

SOURCE | Roswell Park Cancer Institute



NEWS TRIBUNE

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Nightlife research sheds light on smoking

Study: Indoor air worse in cities without ban

BY ERIKA NIEDOWSKI

The Baltimore Sun

7528

A 28-year-old doctoral student at the University at Buffalo in New York spent 10 nights in 53 watering holes in seven cities — East Coast and West — covertly measuring indoor air pollution, sometimes until the wee hours of the morning.

Sure, he got a lot of beer and some burgers out of the deal, but that doesn't make up for the occupational hazard.

So, is the glass half-empty or half full?



# Discovery to Delivery Process

- Epi evidence alone did not fuel policy change
- Advocates and communication campaigns were key in the fight against opposition voices
- Smoke-free air advocacy from grassroots coalitions to national organizations also contributed to efforts
- Thus implementation and dissemination research is important area of training for future epidemiologists

# 2008 CDC Toolkit

## 5 Areas of evaluation

1. Public Support
2. Compliance
3. Air quality monitoring
4. Employee health
5. Economic impact



# Discovery to Delivery Process

- Strong scientific evidence can drive healthy public policy
- Slow translation from discovery into delivery
- Reconnect policy scientists to epidemiologists
- Committed leadership and advocacy are essential
- Media campaigns and well constructed messages

# Lessons Learned

1. Need for epidemiological evidence and inquiry remains even after a policy goal has been achieved
2. Community-based dissemination and implementation research is necessary
3. The best and most necessary research questions do not always come from epidemiologists
4. There is a need for epidemiologists to work with other researchers across disciplines
5. Anticipate and address the opposition
6. Focused, well-organized advocacy is needed to translate even the strongest epidemiological evidence into policy change
7. Train future epidemiologists to engage and interact with public health advocates, practitioners, and policy makers



# Conclusions

- Epidemiologists working on the forefront of translating other risk prevention areas can learn from barriers faced and successes achieved by SHS policy
- Working locally with those outside of the discipline of epidemiology is essential
- Science is not the only factor considered
- Opposition to public health policies can be very effective, so answering opposition must be dynamic, iterative endeavor
- Continuous, ongoing, and local policy evaluations are important to spread effective and protective policy initiatives