A Report of the Results and Recommendations of the Study Group convened by the Health Commissioner as Provided by the Provisions of Bill No. 000314

A Report for Philadelphia City Council

Submitted by Walter H. Tsou, MD, MPH
Health Commissioner

November 1, 2000

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EXECUTIVE SUMMARY

Introduction

City Council Bill No. 000314 as amended on 5/31/00 authorizes the Health Commissioner of Philadelphia to form a Study Group *"to study methods of and, if deemed appropriate develop recommendations with respect to preventing, to the greatest extent possible, second-hand smoke from drifting or recirculating from restaurant bars to indoor smoke-free areas of restaurants."*

"The study and any recommendations of the Commissioner and the Study Group shall include, but not be limited to, the advisability of requiring Restaurant Bars to construct or implement any of the following: separate Smoking rooms; enclosed rooms; ventilation systems; separation of a Restaurant Bar from indoor smoke-free areas by means of a partition; and Spatial separation of a Restaurant Bar from indoor smoke-free areas by a specific distance."

The Health Commissioner invited members from the hospitality industry, health advocates, and other experts to advise the Study Group. Every effort was made to allow a full discussion of opinions from various perspectives.

Stipulations

Given the limited time and narrow charge to the committee, we stipulated that exposure to environmental tobacco smoke (ETS) is hazardous to health. Extensive testimony was previously submitted to City Council on the harmful effects of ETS in April 2000.

We also stipulated that the restaurant and hospitality industry want reduced regulations and taxes.

We recognized that the Study Group may not reach consensus on a recommendation to Council. Should we not reach consensus, we allowed a minority report to be filed at the same time as this report.

Methods

Based on this narrow charge to the committee, the Study Group met four times over the months of September and October, 2000. We seriously explored the issue of ventilation, examining the potential costs and effectiveness of using ventilation to create smoke-free environments. We also explored the efficacy of going smoke-free versus maintaining the status quo, namely designated smoking and non-smoking sections.

Major Conclusions

Separation of smokers from non-smokers into contiguous smoking and non-smoking sections, even if separated by open walkways and partitions, reduces exposure to ETS in non-smoking sections on average by 39 percent. The American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc. (ASHRAE) has studied this issue and noted that "contiguous smoking/non-smoking areas offer moderate to no protection at all to occupants of the non-smoking sections." This is still very far from an acceptable level of exposure.

ASHRAE does not recognize any method of ventilation capable of reducing ETS to achieve acceptable indoor air quality. A new technology called displacement ventilation is a promising method of reducing ETS, but it remains untested and would provide substantial difficulties in retrofitting existing installations. One leading researcher found that even at optimum efficiency, displacement ventilation would not reduce restaurant employees' health risks to current environmental and occupational regulatory levels.

An enclosed smoking room with exhaust directly to the outside of a building, as permitted in Philadelphia City Council Bill No. 000314, could reduce exposure to ETS in non-smoking areas by 96 percent, according to research of smoking rooms in California. Without exhaust to the outside of a building, ETS is reduced by only 67 percent. If there is negative air pressure above 7 Pascals between the enclosed smoking room with exhaust to the outdoors and non-smoking areas, exposure to ETS in non-smoking areas appears to be reduced by as much as 99.9 percent. Two ASHRAE members who served on the study group estimated that installing a suitable direct exhaust system would cost at least $1000.

Prohibiting smoking in a restaurant is the most effective way to limit nonsmokers' exposure to ETS. It is the only way to protect non-smoking restaurant workers as well as non-smoking restaurant patrons. Smoke-free restaurant policies are also the least expensive change for restaurants to implement and for the city to enforce. Studies from all over the country based on restaurant industry tax returns consistently show that aggregate restaurant revenues do not decrease after restaurants go smoke-free. There are some studies based on belief or prediction that conclude there is or could be an economic impact, but these studies are not borne out by the actual economic data. Smoke-free restaurants also avoid maintenance and personnel expenses related to smoking.

Exploration of Options

The Study Group explored four major options by cost, who would pay the cost, and effectiveness in creating smoke-free environments.

1. Status quo (designated smoking and non-smoking areas) - Deemed by the majority as not protective of the non-smoking public from ETS.

2. Ventilation, specifically enclosed smoking areas with outside exhaust - The Study Group carefully examined ventilation as an option. Proper ventilation could be an option, but the cost for construction and maintenance was prohibitive for many restaurants. The option in Bill 000314 would allow fully enclosed smoking areas with outdoor exhaust. If properly constructed, this could eliminate up to 96% of ETS.

3. Displacement ventilation - Displacement ventilation is a new technology which would be even more expensive to implement and unproven as to its efficacy in reducing ETS. In theory, it could reduce ETS by as much as 90%, but the sentiment of the Study Group was that it would be an expensive and largely untried option.

4. Elimination of smoke from the entire indoor restaurant environment

RECOMMENDATIONS

The majority of the Study Group recommended that the best method of preventing drifting of ETS is to eliminate smoke from the entire indoor restaurant environment. It is the easiest method to administer, and studies of other communities that have required restaurants to be smoke-free show both compliance and public acceptance. Restaurants save on cleaning, heating, and ventilation; employees are healthier, miss work less often; and many of the problems of accommodation through ventilation do not arise. If the ban is implemented uniformly, there is no issue of shifting business from one restaurant to another over smoking accommodation. It is also the only method that will protect restaurant employees from consistent, long-term exposure to ETS.

The Study Group finds that an enclosed smoking room with exhaust directly to the outdoors is an acceptable means of protecting nonsmokers in adjoining areas from ETS. The Study Group recommends that enclosed smoking rooms with exhaust to outdoors be required to maintain, during an establishment's hours of occupancy, negative air pressure above 7 Pascals (0.03 inches of water gauge).

In recommending creating smoke-free restaurants and workplaces or enclosed smoking areas with outside exhaust, Philadelphia would be advancing one of the Surgeon General's national health objectives articulated in Healthy People 2010, Chapter 27, "Establish laws on smoke-free indoor air that prohibit smoking or limit it to separately ventilated areas in public places and worksites."[1]

Alternative perspectives

We recognize that the hospitality industry has an alternative perspective on this issue, including a fear that smoking patrons will go to restaurants in the suburbs and South Jersey. We do not believe that our neighboring counties will continue to condone smoking, if Philadelphia demonstrates leadership on this issue. The committee considered and rejected claims that a smoking ban will adversely affect restaurant sales. San Francisco, Los Angeles, New York and Boston all have eliminated smoking from restaurants in the last decade, and in none of these cities do the actual restaurant receipt data show any evidence of an adverse impact. In fact, best estimates of the trends before and after smoking bans in California and New York conclude that there is a positive effect on restaurant sales.

We believe that the hospitality industry has raised several points which Council can consider in crafting the final bill. They have stated three ideas for consideration:

1. Signs should be posted which designate either smoking, designated smoking, or non-smoking in the entire restaurant. If signs were recommended, appropriate warnings would need to be approved by the Health Department.

2. Council could consider tax incentives to encourage creating smoke-free restaurants.

3. Council could create a dining guide or list of smoke-free restaurants available on the internet.

[1] US Dept of Health and Human Services, "Healthy People 2010," January 25, 2000

The Study Group did not fully discuss these options because they were not part of the original charge to the committee. However, they would NOT create smoke-free environments for the majority of restaurants in the city.

Conclusion

We are grateful for the opportunity to study this important public health issue. After careful consideration of a variety of options to prevent drifting of environmental tobacco smoke, the majority of the Study Group believes that having restaurants prohibit smoking or only allow smoking in fully enclosed smoking areas with direct outside exhaust offers the most reasonable and cost effective options to eliminate the hazard of environmental tobacco smoke.

BACKGROUND

In April 2000, City Council held hearings on the harmful effects of Environmental tobacco smoke (ETS). Secondhand smoke is a substantial health hazard, which takes a toll in lives and disease far greater than many industrial toxins that are highly regulated. Least likely to have a smoke-free policy were food service workers—waiters, waitresses, cooks, bartenders, and counter help. Of these 5.5 million workers, 22 percent were teenagers. In a 1993 study, food service workers were estimated to have a 50 percent increased risk of dying from lung cancer compared to the general population, with the higher risk attributed in part to their workplace exposure to secondhand smoke.[2] By any standard of occupational safety and health, this is an unacceptable level of risk.

ETS contains 60 known or suspected carcinogens[3], including nicotine, arsenic, benzene, ammonia, carbon monoxide, DDT, and hydrogen cyanide. Studies show that prevalence and concentrations of ETS are generally higher in restaurants than in other settings and that elevated levels of ETS constituents such as nicotine can be found in the blood, saliva and urine of non-smoking restaurant workers.

Philadelphia has a long history of regulating public smoking beginning in the 1940s, including restrictions on public transit vehicles, retail stores, warehouses, schools, and City owned buildings. The City enacted legislation in 1995 to require a photo ID for buyers of tobacco products suspected of being under 18 and warning signs and a "lock box" on vending machines.

In proposing Bill 000314, City Council has taken an additional step toward regulating public exposure to secondhand smoke. Several states and municipalities have enacted similar laws to create smoke-free environments in restaurants, most prominently California, New York City and Boston.

[2] Siegel MJ, "Involuntary smoking in the restaurant workplace," JAMA 270:480-83, (1993)
[3] Repace J, "Risks and Control of Secondhand Smoke," City Council testimony, May 24, 2000.

CHARGE TO THE STUDY GROUP

City Council Bill No. 000314 as amended on 5/31/00 authorizes the Health Commissioner of Philadelphia to form a Study Group "to study methods of and, if deemed appropriate, develop recommendations with respect to preventing, to the greatest extent possible, second-hand smoke from drifting or recirculating from restaurant bars to indoor smoke-free areas of restaurants."

BILL NO. 000314, as amended

(6) Study and Report on Restaurant Bars.

(a) The Health Commissioner ("Commissioner") shall form a Study Group consisting of the members of City Council's Committee on Public Health and Human Services, representatives of any other City departments, boards, commissions or other agencies of the City government the Commissioner deems appropriate, and representatives of the restaurant and hospitality industry in Philadelphia. The Study Group shall study methods of and, if deemed appropriate, develop recommendations with respect to preventing, to the greatest extent practicable, second-hand smoke from drifting or recirculating from Restaurant Bars to indoor smoke-free areas of restaurants.

(b) The study and any recommendations of the Commissioner and the Study Group shall include, but not be limited to, the advisability of requiring Restaurant Bars to construct or implement any of the following: separate Smoking rooms; enclosed rooms; ventilation systems; separation of a Restaurant Bar from indoor smoke-free areas by means of a partition; and Spatial separation of a Restaurant Bar from indoor smoke-free areas by a specific distance.

(c) In determining the advisability of requiring that certain protections from second-hand smoke be provided in Restaurant Bars, the Commissioner and Study Group shall consider any applicable standards or recommendations of representatives of the restaurant and hospitality industry in Philadelphia, the American Society of Heating, Refrigerating and Air-Conditioning Engineers, the United States Environmental Protection Agency and the Occupational Safety and Health Administration of the United States Department of Labor with respect to indoor air quality relating to second-hand smoke, the impact on public health of exposure to second-hand smoke, and any other factors which the Commissioner and the Study Group deem appropriate.

(d) The Commissioner and the Study Group shall submit a written report to Council by November 1, 2000 as to the results of their study and any recommendations. Council shall consider such report, but need not follow the recommendations of such report, in determining whether to extend or modify the exception set forth in subsection 10-602(2)(b)(.8) permitting smoking in Restaurant Bars under certain terms and conditions until March 31, 2001.

COMPOSITION OF STUDY GROUP

The Study Group consisted of representatives from health advocacy organizations, governmental agencies, hospitality industry, the Heating, Ventilation, Air Conditioning (HVAC) field, city regulatory entities of the Department of Public Health (Air Management Services and Environmental Health Services), city regulatory entities from the Police Department and the Department of Licenses and Inspections, Fox School of Business-Temple University, Walter Tsou, MD, MPH, Health Commissioner, and City Councilman Michael Nutter. The voting members of the Study Group were representatives from the hospitality industry and public health community and a professor of business ethics.

Members of City Council and their staff were free to participate in the Study Group.

- **CITY COUNCIL REPRESENTATIVES IN ATTENDANCE AT MEETINGS:**

9/11/00
Councilman Michael Nutter
Julia Chapman (City Councilman Nutter)
Hugh Allen (City Councilman Richard Mariano)
Brenda Frazier (City Councilwoman Marian Tasco)

10/2/00
Councilman Michael Nutter
Councilman Frank DiCicco
Julia Chapman (City Councilman Nutter)
Hugh Allen (City Councilman Richard Mariano)
Brenda Frazier (City Councilwoman Marian Tasco)
Ray Alvarez (City Councilman Angel Ortiz)
David Forde (City Councilwoman Blondell Reynolds-Brown)

10/16/00
E. Matthew Quigley (Councilman Wilson Goode)
Julia Chapman (City Councilman Nutter)
Hugh Allen (City Councilman Richard Mariano)
Mike Marsico (Councilman Angel Ortiz)
David Forde (City Councilwoman Blondell Reynolds-Brown)

10/30/00
Councilman Michael Nutter
E. Matthew Quigley (City Councilman Wilson Goode)
Hugh Allen (City Councilman Richard Mariano)
David Forde (City Councilwoman Blondell Reynolds-Brown)
Brenda Frazier (City Councilwoman Marian Tasco)

STUDY GROUP REPRESENTATIVES
Voting* and Non-voting members
COUNCIL BILL 314

Debbie Batt, Executive Director* Waterfront Business Association Philadelphia, PA	Bruce Nichols, President* Greater Philadelphia Restaurant and Purveyors Association Philadelphia, PA
Debbie Garvin, Executive Director* Licensed Beverage Association of Phila. Philadelphia, PA	John Taxin, President* Philadelphia-Delaware Valley Restaurant Assoc. Philadelphia, PA
David S. Germroth* Legislative and Regulatory Counsel Philadelphia Hospitality and Business Alliance Philadelphia, PA	Jeffrey Barg* Chairman Tobacco-Free Education and Action Coalition Narbeth, PA 19072
Keith Cockerham (ASHRAE) Ewing, Cole, Cherry, Brott Architects Philadelphia, PA	Joseph Minott, Esq.* Executive Director Clean Air Council Philadelphia, PA
James Johnston U.S. Department of Labor OSHA – Region III Philadelphia, PA	Nathan Maines* Chief Information Officer American Lung Association Harrisburg, PA
Frank T. Leone, MD, MS, Dir.* Jefferson Medical College Comprehensive Center for Tobacco Research and Treatment Philadelphia	Terry Halbert, Professor* Legal Studies Fox School of Business and Management Temple University, Philadelphia
Robert Finkboner (ASHRAE) ASHRAE Technical, Energy and Government Activities Chair Invensys Building Systems Trevose, PA	Sharmine Matlock Turner* Greater Philadelphia Urban Affairs Coalition Philadelphia, PA
Randy Hirschhorn George Zameska Environmental Health Services Philadelphia Department of Public Health Philadelphia, PA	Fran Dougherty *(for Judith Katz, Esq, Director)* Air Protection Division US EPA – Region 3 Philadelphia, PA
Otis Haigler, Jr. Legislative and Regulatory Affairs Manager Phila Dept. of L and I Lt. Eugene B. Cummings Patrol Bureau Philadelphia Police Department	Morris Fine, Director Air Management Services Phila. Dept. of Public Health

*Eleven members of the Study Group were assigned voting rights (*) designated by the Health Commissioner. All regulatory and ventilation agencies served only in an advisory capacity. There were equal numbers of voting representatives from the health advocates and hospitality industry.

GUIDELINES OF THE STUDY REVIEW COMMITTEE

Prior to the first meeting called by the Health Commissioner, a set of guidelines for the Study Group were assembled and mailed to ALL members of the Study Group Committee as well as City Council sponsors of the Bill. The guidelines were as follows:

Study Group members were selected and convened to:
(1) provide technical review and professional expertise to the Health Commissioner.
(2) study methods of preventing second-hand smoke from drifting or recirculating from restaurant bars to indoor smoke-free areas of restaurants.
(3) assist the Health Commissioner to develop by November 1, 2000, a written report to City Council as to the results of their study, with specific recommendations as to extending or modifying the exceptions set forth in ***subsection 10-602(2)(b)(.8)***. This section permits smoking in restaurant bars under certain terms or conditions until March 1, 2001.

Given the short time frame and narrow focus of the Study Group, the Commissioner stipulated without discussion that environmental tobacco smoke (ETS) is a health hazard. Patrons who dine should expect to enjoy their meals in a smoke-free environment. Furthermore, employees who work in the hospitality industry are at increased risk for respiratory complications due to ETS and should have their exposure reduced as much as possible.

The Commissioner further stipulated that the hospitality industry are businessmen and women. They have an interest in the economic welfare of their businesses as well as a reduction in the regulatory and tax climate of Philadelphia. Those whose task it is for enforcing this amended ordinance will serve in an advisory capacity to this Study Group.

The Study Group would seriously examine the issue of accommodation. This is a position favored by the tobacco industry to examine ways to modify ventilation systems in order to create a smoke-free environment. The Study Group also examined alternative choices such as enclosed smoking areas. Both the efficacy of these systems for creating smoke-free environments and the potential costs for these modifications were explored.

Operation of Group

The Health Commissioner's role was to facilitate and guide the group discussion on the agenda and timetable. Decisions in general were done by consensus. Robert's Rules of Order formed the basis of decision making in most instances. In the event that there were divisions in opinion, voting members of the Study Group voted on issues and the majority vote would prevail. In the event of a tie vote, the Health Commissioner had the deciding vote.

Voting was conducted in the following manner. A formal motion was made. An opportunity was made to speak in favor or in opposition to the motion. The Commissioner determined when sufficient discussion had taken place, followed by a question and vote. Voting was conducted by paper ballot allowing individuals to vote based on their best judgement.

The Press and Public

All meetings were closed to the public and press. Study Group members were asked to maintain strict confidentiality until the final recommendations were released. On November 1, the recommendations of the Study Group will be released. Public discussion of Bill 000314 were already held and heard by City Council. In the event that there was serious disagreement, a minority report could be also released to City Council for consideration.

Disclosure to the Hospitality Industry

Prior to the final meeting on October 30, voting members were allowed to discuss vote outcomes of the October 16 meeting with the Hospitality members.

Absence at Meetings

Voting members: In the event a *voting member* could not attend one or more meeting, that person may designate a representative from his/her association/professional affiliation to serve in their absence in a voting capacity. Failure to attend could not be used to invalidate the actions of the Study Group.

Advisory members: In the event an *advisory member* could not attend one or more meeting, that person may designate a representative from his/her association/professional affiliation to serve in their absence.

Staff Support

The Health Commissioner's Office provided staff support for the Study Group including minutes, filing, mailings and communications. Full transcripts were available for the October meetings. Upon release of the report, minutes and transcripts will be publicly available.

Study Group Meetings

- Four meetings were scheduled
- All meetings were scheduled on Mondays @12:30PM – 2:30 PM
- Box lunches were provided

Meeting dates: September 11, October 2, 16, and 30, 2000
Place: Health Commissioner's Office
Suite 840, 1101 Market Street

DEVELOPMENT OF OPTIONS AND EXPLORATION OF THE ISSUES

The Study Group examined four major options summarized in the table below:

1. Ventilation, specifically enclosed smoking areas with outside exhaust
2. Displacement ventilation
3. Elimination of smoke from the entire indoor restaurant environment
4. Status quo – designated smoking and non smoking areas

ACCOMODATION OPTIONS

	COSTS	WHO PAYS	CAN THIS CREATE A S-F ENVRNMT?	NOTES
1. Enclosed smoking lounge with separate ventilation system	Undetermined Loss of dining space Up front design cost and maintenance	Hospitality	Projected reduction of ETS = 96%	Costly Very difficult for ALL types of restaurants to install
2. Displacement ventilation	Undetermined Design issues Up front cost and maintenance	Hospitality	Untested Projected reduction of ETS = 90%	Very costly Untested new technology
3. Going COMPLETELY Smoke-free (restaurant AND bar) • Public Health (PH) • Hospitality Industry (HI)	(PH) Zero ** Potential new (non-smoking) customers (HI) **Perceived loss of revenue and patrons	(PH) N/A (HI) Investment not required to go Smoke-free	Yes	(PH) Modify relative risk Modify population risk to baseline risk (HI) Tax incentives for smoke-free restaurants. Advertise smoke-free restaurants as an alternative
4. Smoking and non-smoking sections (status quo – most are dilution ventilation systems) • Public Health (PH) • Hospitality Industry (HI)	(PH) Health risks: workers/customers Health costs: workers/customers Direct/Indirect costs over time (HI) Ventilation installation costs Maintenance Liability – (exposed workers/customers) Productivity loss	(PH) Public/private Health services Medical costs (HI) The public: health care costs Employee: health related causal effects of ETS	No	Signage as to the health risks / ETS City certification of smoke-free rest. City wide smoke-free restaurant guide Prohibit children in smoke permitted restaurants

Ventilation (See Appendix B)

Enclosed smoking lounge with separate ventilation system - An enclosed smoking room with exhaust directly to the outside of a building, as permitted in Philadelphia City Council Bill No. 000314, could reduce exposure to ETS in non-smoking areas by 96 percent, according to research of smoking rooms in California. Without exhaust to the outside of a building, ETS is reduced by only 67 percent. If there is negative air pressure above 7 Pascals between the enclosed smoking room with exhaust to the outdoors and non-smoking areas, exposure to ETS in non-smoking areas appears to be reduced by as much as 99.9 percent. Our ASHRAE members noted that in general, negative air pressure would mean that exhaust flow would exceed supply flow rates by 10%.

Two ASHRAE members who served on the study group estimated that installing a suitable direct exhaust system would cost at least $1000, but depending on the building configuration, the cost could exceed many times this amount.

The majority of the Study Group found that the enclosed smoking rooms with exhaust to the outdoors would be an acceptable means of protecting nonsmokers from ETS. The study group recommends that enclosed smoking rooms with exhaust to outdoors be required to have negative air pressure above 7 Pascals.

Dilution ventilation is the system most restaurants use. A panel of ventilation experts assembled by OSHA and ACGIH concluded that dilution ventilation, used in virtually all mechanically ventilated buildings, will not control secondhand smoke in the hospitality industry (e.g., restaurants, bars, casinos). They also noted the lack of recognized standards for acceptable ETS exposure as well as the lack of information on typical exposure levels. Exhaust which recirculates rather than exhausts to the outdoors (commonly found in buildings) offers no protection against ETS.

However, indoor air quality standards for ETS have been proposed in the scientific literature, and reliable mathematical models exist for predicting pollutant concentrations from indoor smoking. These proposed standards and models permit application of an indoor air quality procedure for determining ventilation rates as set forth in ASHRAE Standard 62. Using this procedure, it is clear that dilution ventilation technology even under moderate smoking conditions cannot control ETS risk to *de minimus* levels for workers or patrons in hospitality venues without massively impractical increases in ventilation.

Displacement Ventilation – new ventilation technology (see Appendix B)
Displacement ventilation is relatively new technology and difficult, if not impossible, to retrofit in many old buildings. It is theoretically able to reduce ETS by as much as 90%, compared to dilution ventilation. A leading researcher on the topic, James Repace, also noted that even a 90 percent reduction in ETS would yield an estimated lifetime risk for workers of from 1.5 to 3 per 1000, which exceeds all environmental and occupational regulatory levels. Displacement ventilation is even more expensive than creating enclosed rooms with outside exhaust and can be easily defeated by placing obstacles near vents. It would be difficult to maintain. In realistic

restaurant environments, it would require ventilation rates beyond the range of most HVAC equipment.

An expert panel raised several concerns about displacement technology, including lack of familiarity by many ventilation engineers, difficulty with retrofitting existing installations, and potential aesthetic problems.

Eliminating ETS in Restaurants

The majority of the study group found that prohibiting smoking in a restaurant is the most effective way to limit nonsmokers' exposure to ETS. It is the only way to protect non-smoking restaurant workers as well as non-smoking restaurant patrons. Smoke-free restaurant policies are also the least expensive change for restaurants to implement and for the city to enforce. Studies from all over the country based on restaurant industry tax returns consistently show that aggregate restaurant revenues do not decrease after restaurants go smoke-free[4]. Smoke-free restaurants also avoid maintenance and personnel expenses related to smoking.

Regulation of Air Quality by an Aethelometer. An aethelometer is an expensive, heavy device which can measure particulate matter in indoor air. We found this device to be unwieldy and impractical to implement. Air quality measurement equipment is too costly for all but the largest, most successful restaurants to afford. Continuous monitoring would require an army of Health Department regulators. Nor was monitoring a solution to the larger question of what to do about removing smoke from the environment.

The Status Quo: Smoking and Non-Smoking Sections (Let the market decide – unregulated)
Separation of smokers from nonsmokers into contiguous smoking and non-smoking sections, even if separated by open walkways and partitions, reduces exposure to ETS in non-smoking sections on average by 39 percent at best. The American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc. (ASHRAE) has studied this issue and noted that, "contiguous smoking/non-smoking areas offer moderate to no protection at all to occupants of the non smoking sections"[5] This is still very far from an acceptable level of exposure.

The majority of the Study Group therefore concluded that contiguous smoking and non-smoking sections are an insufficient means of protecting nonsmokers from drifting ETS.

[4] Glantz SA, "Smokefree Restaurant Ordinances Do Not Affect Restaurant Business," J of PH Management and Practice, Jan 1999, pg. vi

[5] Alevantis LE, Liu KS, Hayward SB, et.al, "Effectiveness of Ventilation in 23 Designated Smoking Areas in California Office Buildings"

RECOMMENDATIONS/OUTCOMES

On October 16, we voted on the position of the Study Group on the options explored. The vote, while close, was noted as follows:

Option A – 6 votes
- Restaurants and workplaces should go completely smoke-free or have

Ventilation including enclosed smoking lounge with ventilation to the outdoors or displacement ventilation with outdoor exhaust.

It should be emphasized, however, that an enclosed smoking space in restaurants seems too cost prohibitive for most restaurants and the effectiveness of displacement ventilation remains untested. ASHRAE does not recognize any method of ventilation as practically capable of reducing ETS to achieve acceptable indoor air quality.

Option B – 5 votes
- Self-regulation
- Tax incentives for going smoke free
- Signage
- Smoke free dining guide

We recognize that the hospitality industry has an alternative perspective on this issue, including a fear that smokers will go to restaurants in the suburbs and South Jersey. We do not believe that our neighboring counties will continue to condone smoking, if Philadelphia demonstrates leadership on this issue. The committee considered and rejected claims that a smoking ban will adversely affect restaurant sales. San Francisco, Los Angeles, New York and Boston all have eliminated smoking from restaurants in the last decade, and in none of these cities do the actual restaurant receipt data show any evidence of an adverse impact.

We believe that the hospitality industry has raised several points which Council can consider in crafting the final bill. They have stated three ideas for consideration:

1. Signs should be posted which designate either smoking, designated smoking, or non smoking in the entire restaurant. If signs were recommended, appropriate warnings would need to be approved by the Health Department.

2. Council could consider tax incentives to encourage creating smoke-free restaurants.

3. Council could create a dining guide or list of smoke-free restaurants available on the internet.

The Study Group did not fully discuss these options because they were not part of the original charge to the committee. However, they would NOT create smoke-free environments for the majority of restaurants in the city.

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Analysis of Taxable Sales Receipts: Was New York City's Smoke-Free Air Act Bad for Restaurant Business? Hyland, A. , March 2000 - JPHMP. The authors describe a study to determine if the New York City Smoke-Free Air Act had an adverse economic impact on the taxable sales receipts from the city's restaurant and hotel industries.

Restaurant Employment before and after the New York City Smoke-Free Air Act., Hyland, A., JPMP. Hyland and Cummings discuss a study to evaluate whether the New York City Smoke-Free Air Act resulted in job losses for the city's restaurant industry.

Restaurateur Reports of the Economic Impact of the New York City Smoke-Free Air Act. Hyland, A. March 2000 – JPHMP. This article discusses the results of a population-based, cross-sectional, telephone survey of 434 owners/managers of restaurants in New York City that was conducted to determine what effect the city's smoke-free law had on restaurants.

The Economic Effect of Smoke-Free Restaurant Policies on Restaurant Business in Massachusetts. Bartosch, W. March 2000 – JPHMP. Bartosch and Pope present the results of a study that found that local smoke-free policies had no statistically significant effect on restaurant business in Massachusetts.

Local Restaurant Smoking Policy Enactment in Massachusetts. Bartosch, W. March 2000 – JPHMP. The authors examine the enactment of local restaurant smoking policies in Massachusetts and identify differences in the types and number of policies that have been adopted over time.

Testimony of Rick Berman, General Counsel, American Beverage Institute, Public Hearing on the 1995 Clean Indoor Air Act, Wednesday, February 23, 2000, Council Chambers, City Hall, New York City, New York, American Beverage Institute.

Review of 10 Articles on Economic Effects of Smoking Laws Appearing in Journal of Health Management and Practice. (Not published) January, 1999

The Effects of Smoking Laws on Seating Allocations of Restaurants, Bars, and Taverns. January, 2000. Economic Inquiry, Volume 38, No. 1 (2000) pp. 151-157.

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American Nonsmokers' Rights Foundation. January, 2000. American Nonsmokers' Rights Foundation, 2530 San Pablo Avenue, Suite J, Berkeley, California, 94702.

Smoky Bars and Restaurants: Who Avoids Them and Why? Biener, L. March 2000 – JPHMP. Biener and Fitzgerald discuss a study of the population that avoids places due to environmental tobacco smoke, the types of places that they avoid, and the reasons that they give.

Compliance with the New York City Smoke-Free Air Act. Hyland, A. March 2000 – JPHMP Hyland et al. discuss a study to determine the level of compliance with the New York City Smoke-Free Air Act.

Appendix A – Defining "Smoke-free"

Definition of Smoke-free

- The simple definition of smoke-free is: "WITHIN A SINGLE AIRSPACE, NO SMOKING BY ANYONE AT ANYTIME." "Airspace" can extend not only to the same adjoining room yet over more than one building because airflow pathways cross common walls or because of the relative locations of exhausts and intakes of neighboring buildings.

  CLEAN INDOOR AIR: The American Society of Heating, Refrigerating and Air-Conditioning Engineers Inc. (ASHRAE) and OSHA can provide useful guidance in their approach to indoor air quality and in defining the term smoke-free. Many existing clean indoor air ordinances specify that ventilation rates must conform to the ASHRAE ventilation standard (62-1999). Many communities have adopted *Clean Indoor Air* ordinances which require compliance with ASHRAE ventilation standards. However, ASHRAE does not recognize any method of ventilation capable of reducing ETS to achieve acceptable indoor air quality.

  "…specify minimum ventilation rates and indoor air quality that will be acceptable to human occupants…air in which there are no known contaminants at harmful concentrations as determined by cognizant authorities…"

  Cognizant authorities have determined that environmental tobacco smoke is harmful to human health. These authorities are:

  - US EPA
  - World Health Organization
  - American Medical Association
  - American Lung Association
  - National Institute of Occupational Safety and Health Administration
  - National Academy of Sciences, Occupational Safety and Health Administration
  - Office of the US Surgeon General

- Reduction in ETS particulates. "Smoke-free as defined in terms of degree of reduction in ETS components or surrogates. For example, the Alevantis study[6] defines smoke-free as a 99.9%reduction in levels of the tracer gas sulfur hexafluoride as compared to smoking areas. A panel of ventilation experts assembled by OSHA and ACGIH asserted that displacement ventilation might reduce ETS levels by as much as 90% relative to dilution technology."

- Adopt standards for unacceptable health risk. OSHA, for example, sets significant risk at 1 death per 1000 lifetime exposures. Furthermore, the *de minimis* or "acceptable risk" level for federally regulated hazardous air pollutants is set at 1 death per one million lifetime exposures. Using this approach, both dilution and displacement ventilation, even under ideal circumstances, are inadequate - with estimates that the former will cause between 15 and 25 deaths per 1,000 hospitality workers, and the latter, at least 1.5 to 2.5 deaths per 1000 hospitality workers.[7]

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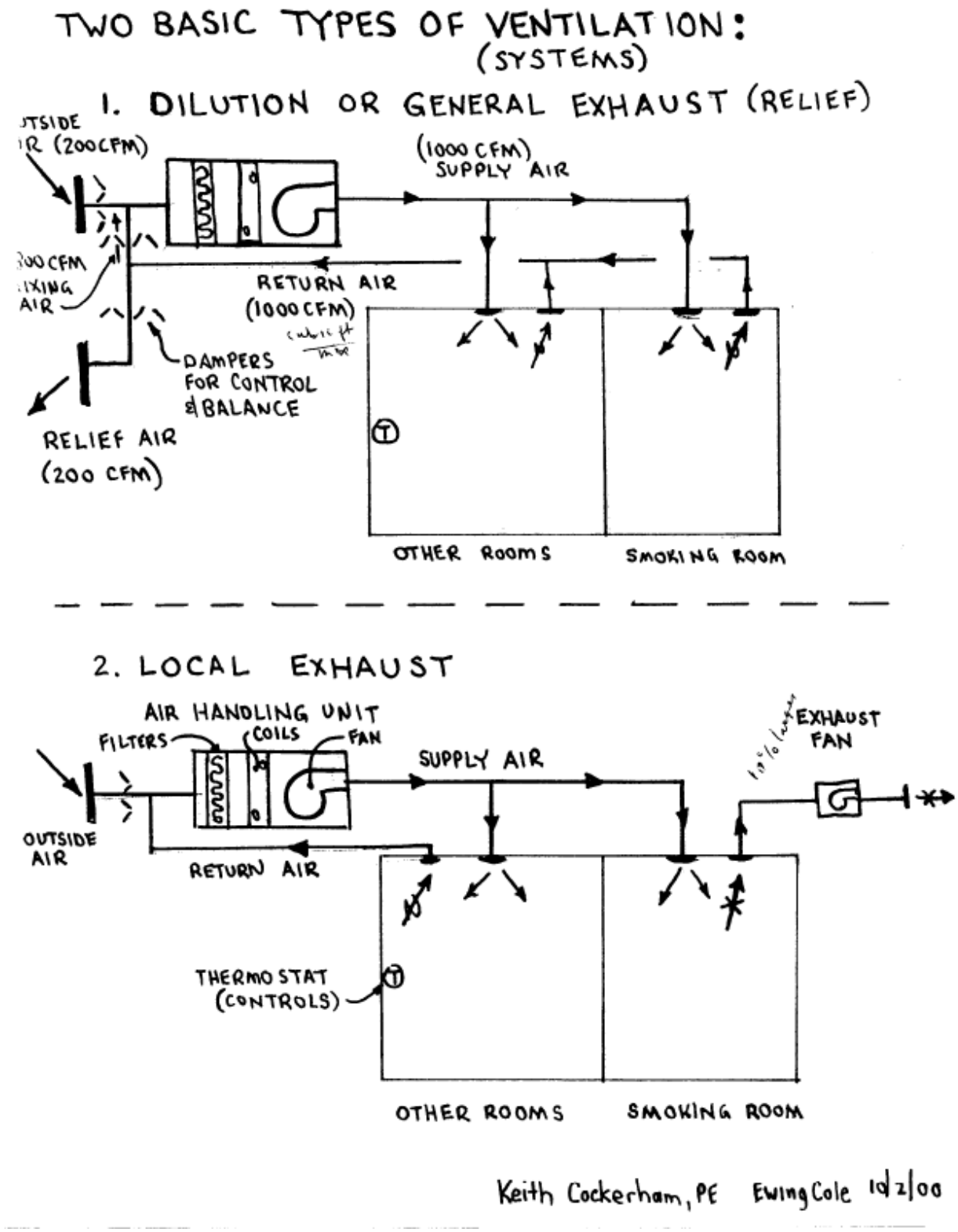
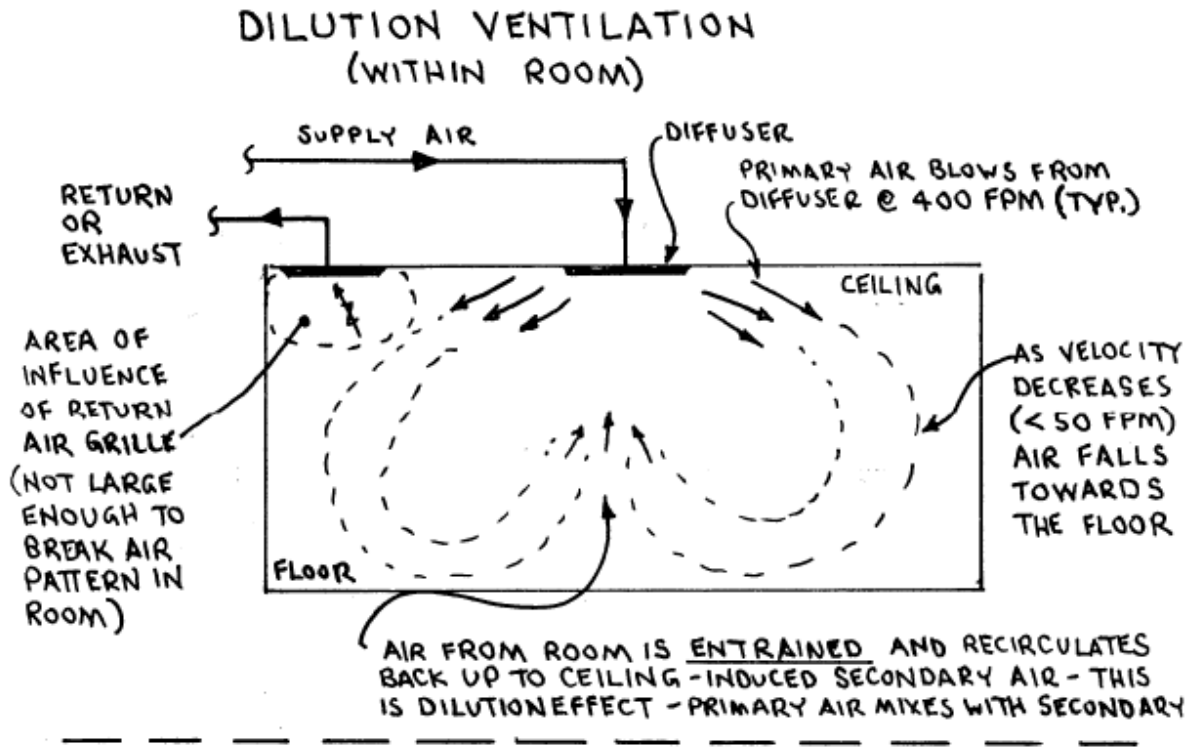
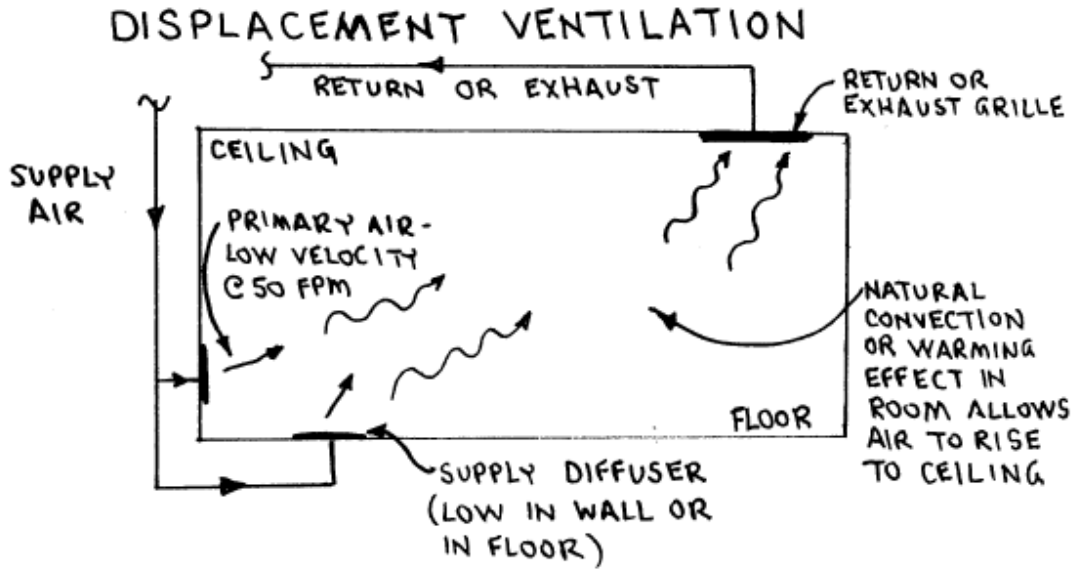
[6] *Effectiveness of Ventilation in 23 Designated Smoking Areas in California Office Buildings – L.E. Alevantis/mechanical engineer, K-S. Liu/Epidemiologist

[7] J. Repace. Can Ventilation Control Secondhand Smoke in the Hospitality Industry?

Appendix B – Two Types of Ventilation







Keith Cockerham Ewing Cole 10/2/00