

Thai National Tobacco Control Conference

Miracle Grand Hotel, Bangkok
June 4, 2006

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In Asia:

Where are we now?

*What are the next
priorities?*



SECOND-HAND SMOKE

MAINSTREAM SMOKE

SIDESTREAM SMOKE

Second-hand smoke is mostly sidestream smoke

The concentrations of many poisons are relatively higher in second-hand smoke compared to mainstream smoke.

Many poisons are more concentrated in *sidestream* smoke than in *mainstream* smoke

Some examples

Sidestream / mainstream ratio

Ammonia	5
Benzene	3
1, 3 Butadiene	3
Formaldehyde	up to 50
Benzo(a)pyrene	3
Anilene	30
Cadium	7
Nickel	13
Nitrosornicotine	up to 3

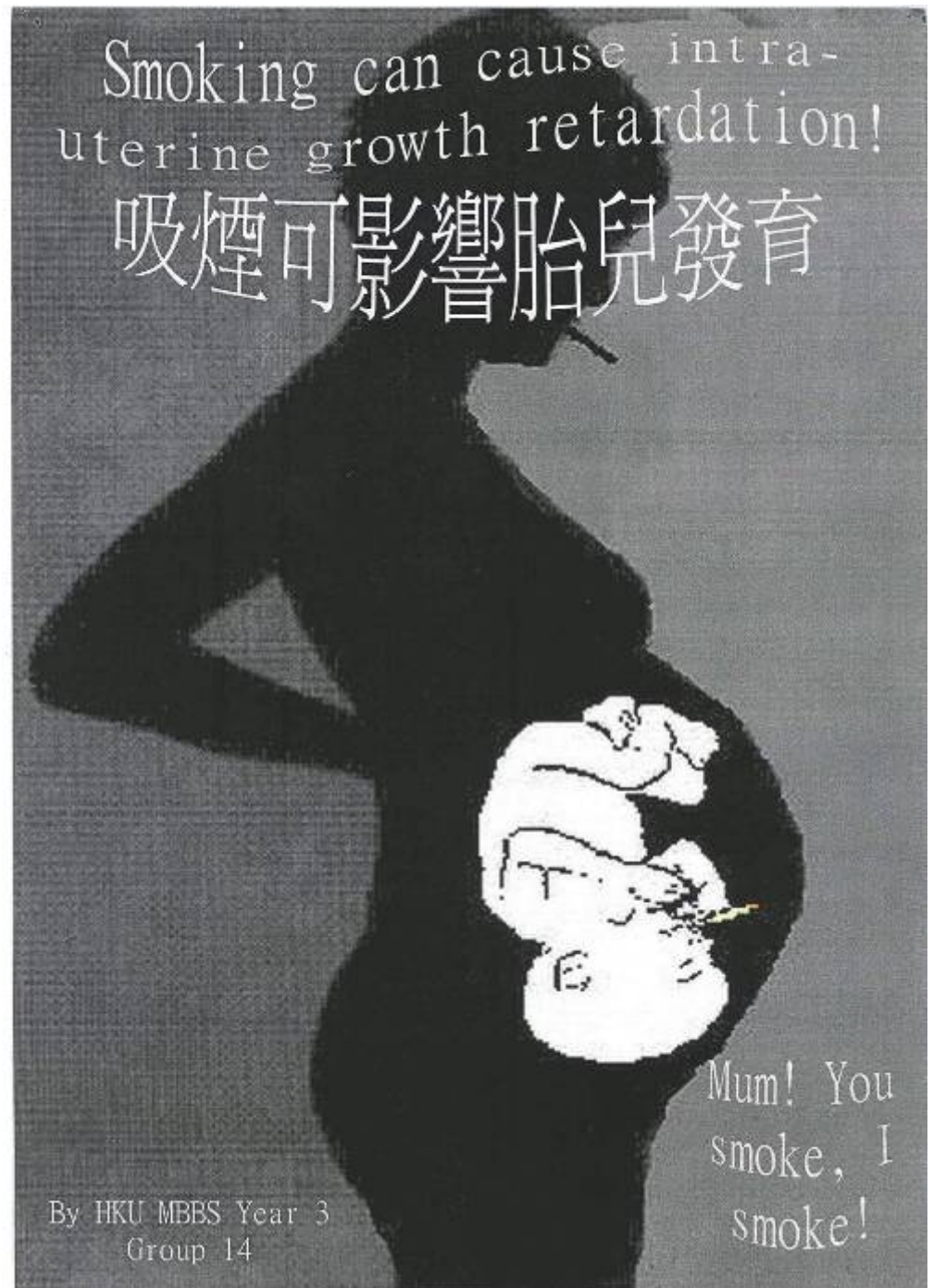
The first tasks:

Protection of the catering workplace is a high priority in Asia



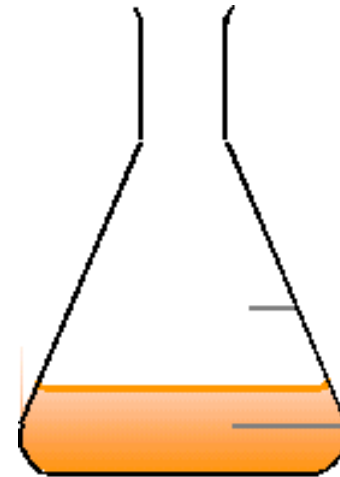
Passive smoking is a major threat to maternal and child health in both home and workplace

A large proportion of the catering workforce is female

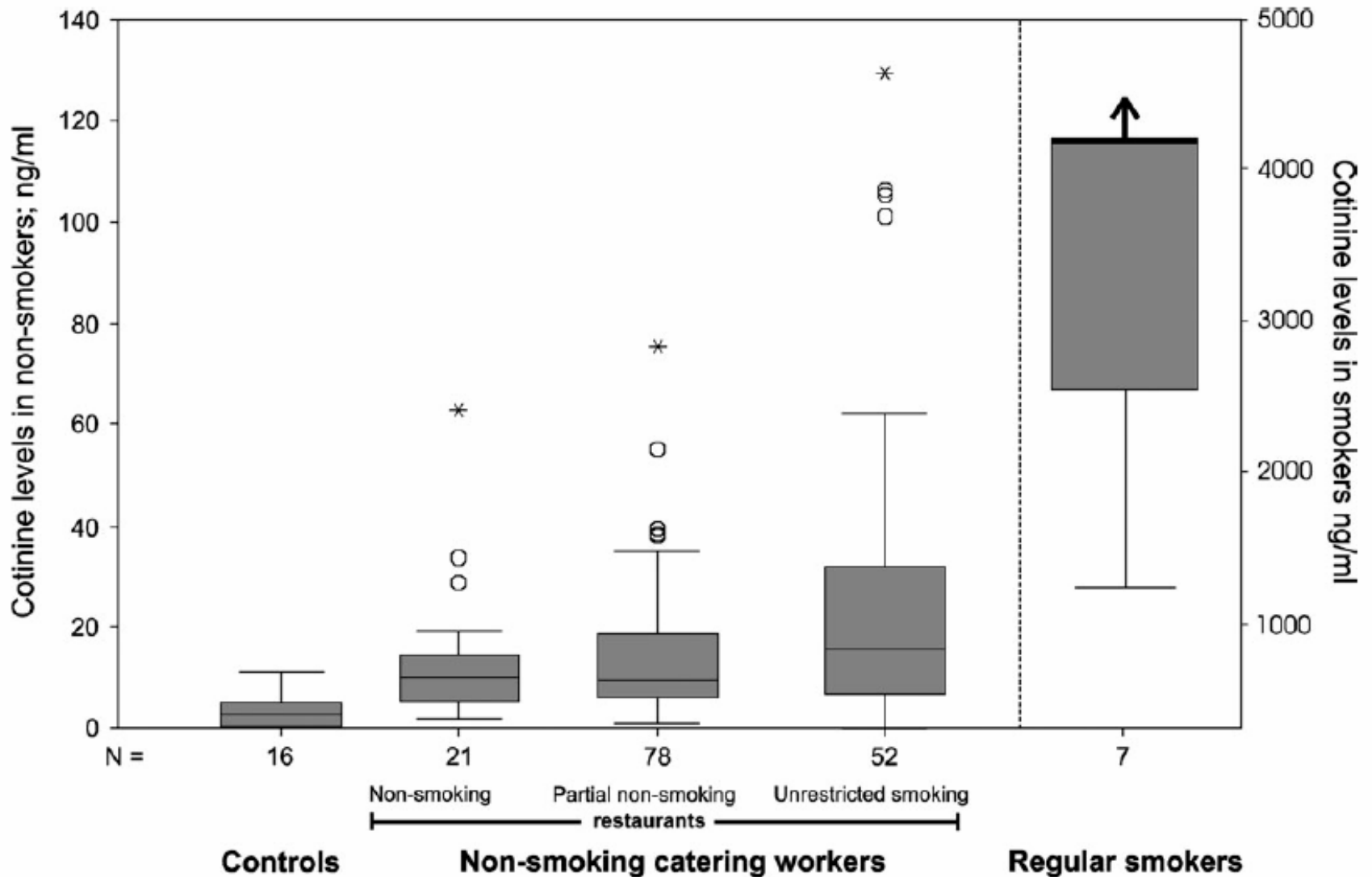


How can we assess exposure to secondhand smoke?

- Standardised history
- Biomarkers, like the nicotine metabolite **cotinine** in
 - * saliva
 - * urine
 - * hair
 - * blood

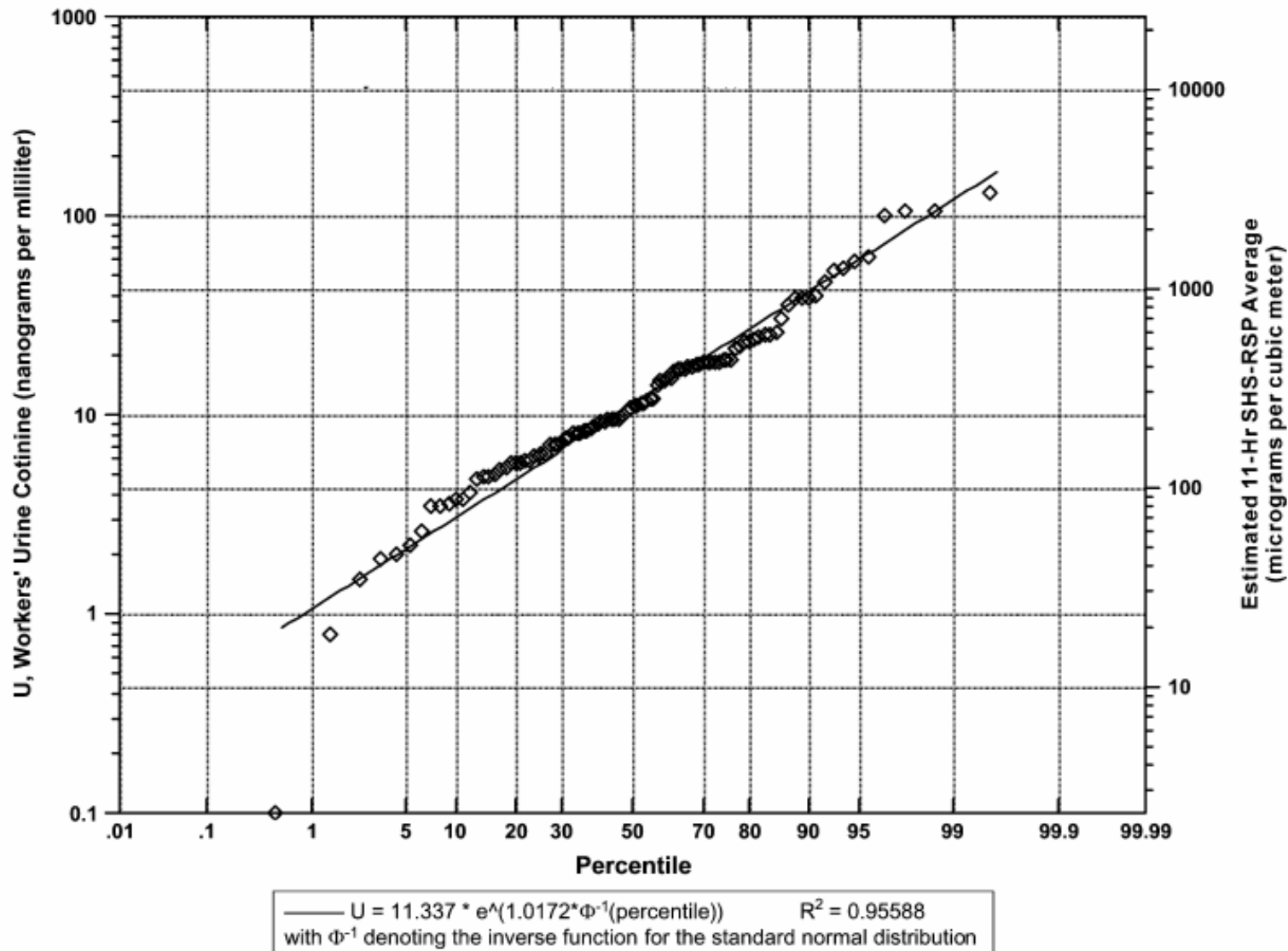


Urine cotinine levels (ng/ml) in controls and nonsmoking catering workers by type of restaurant

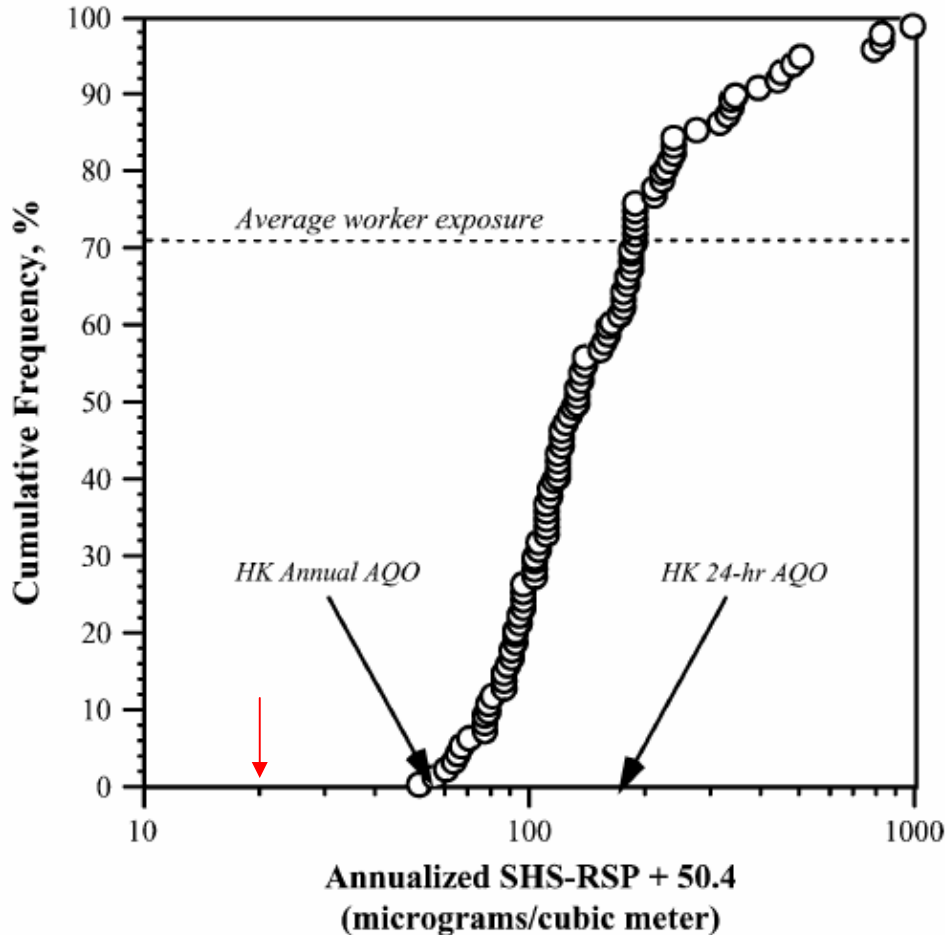


Log-probability plot for urinary cotinine and estimated SHS-RSP exposure

SHS-RSP = 23.15 U ($p = 1 \text{ m}^3/\text{h}$; $H = 11 \text{ h/day}$) for 104 Hong Kong restaurant workers exposed to secondhand tobacco smoke only at work

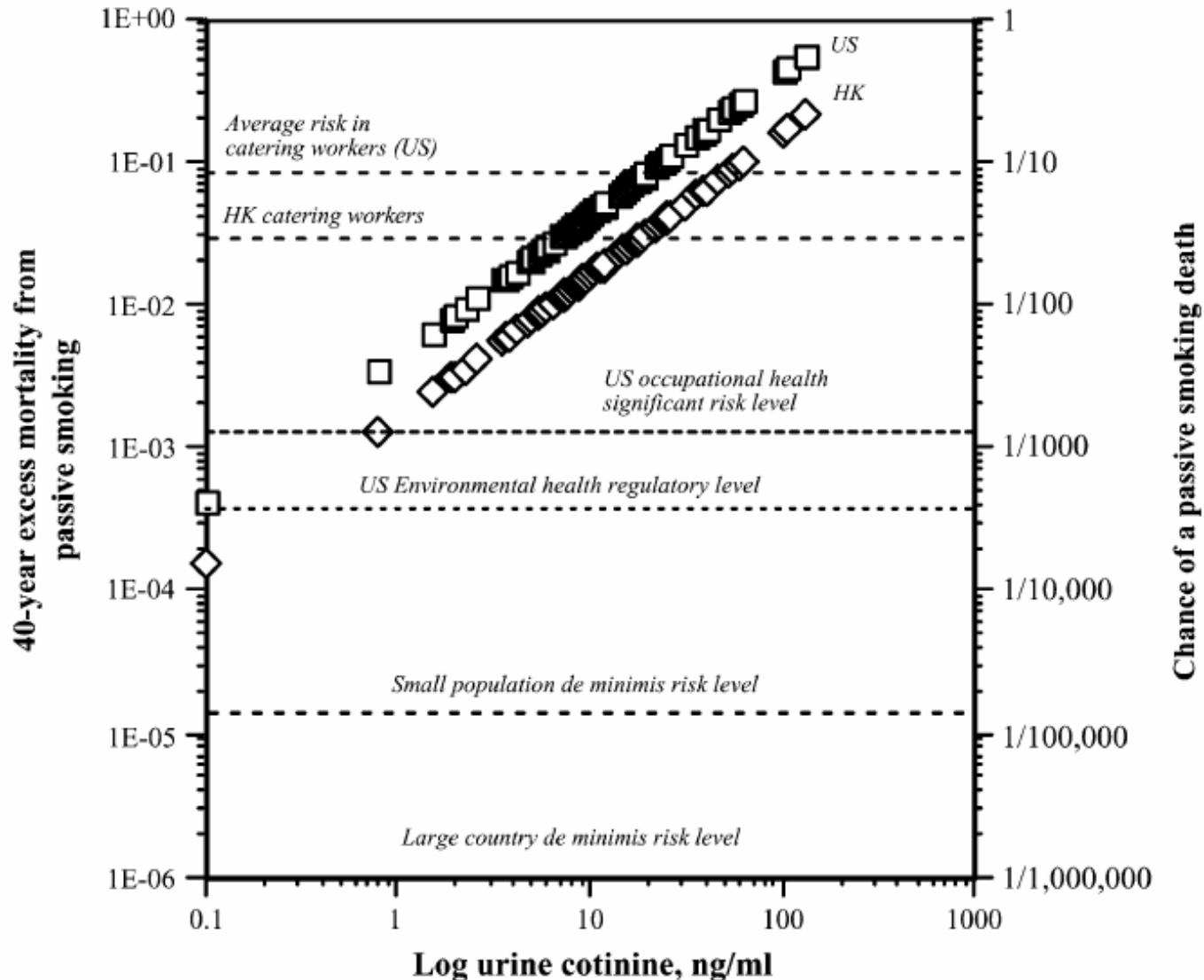


SHS-RSP from cotinine assuming 250 d/y exposure, and 11 hr workday plus year 2000 annual PM₁₀ of 50.4 µg/m³



Cumulative frequency distribution for 104 Hong Kong workers exposed to secondhand tobacco smoke only at work. Estimated 24-h average secondhand smoke respirable particulates levels assume an average 11-h work shift. Hong Kong air quality objectives (AQO) for RSP are shown for comparison. An estimated 30% of Hong Kong catering workers studied exceeded the 24-h AQO.

Working lifetime combined risk from fatal heart disease and lung cancer based on Hong Kong exposure to secondhand tobacco smoke and both US and Hong Kong mortality rates



Second-hand smoke kills catering workers

In the Hong Kong workforce of 200,000:

At the average exposure to SHS

150 deaths/yr

At the highest Exposures to SHS

450 to >1000 deaths/yr

How many Hong Kong workers are exposed to tobacco smoke in their workplace?

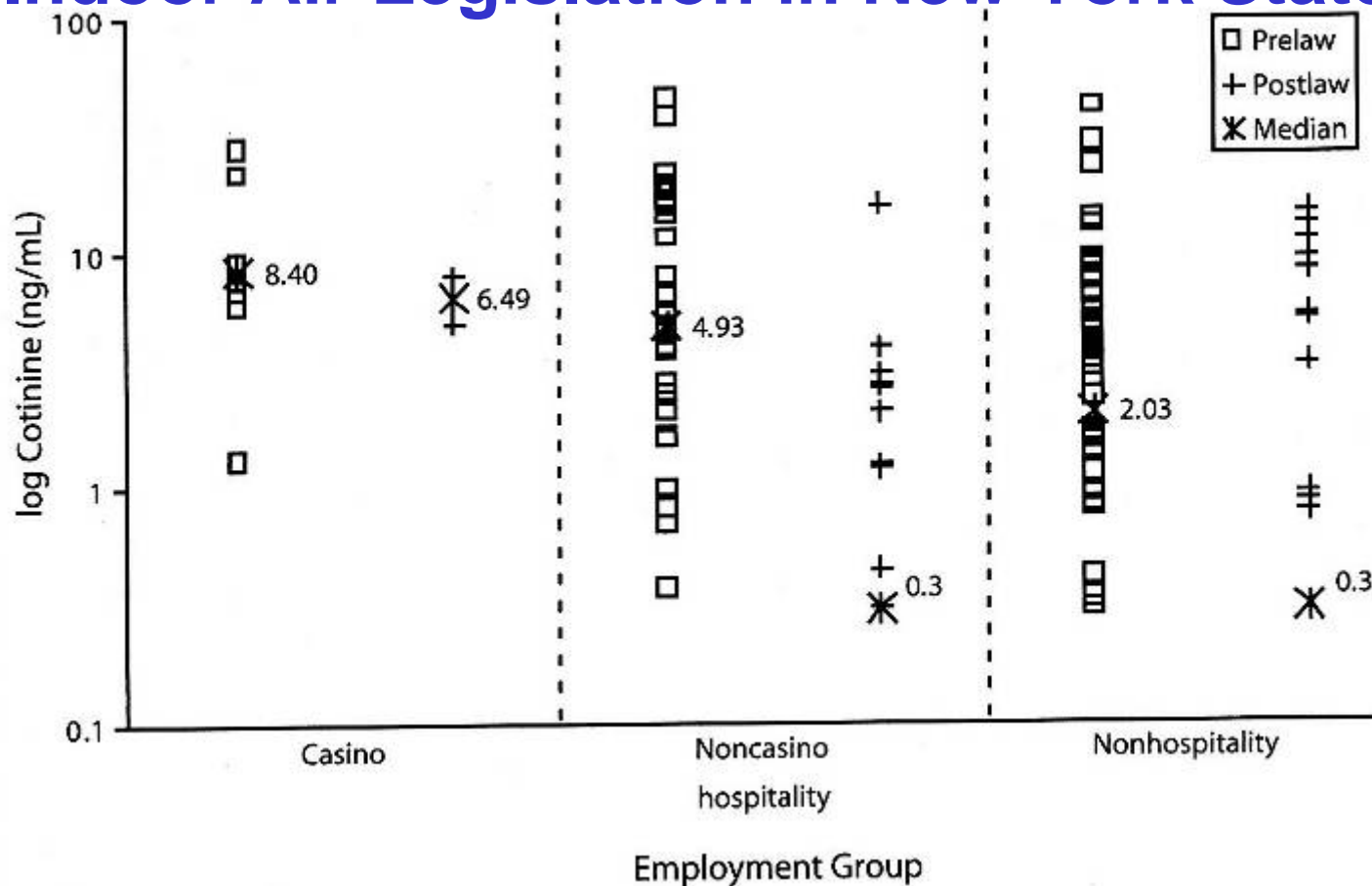
(based on exposure history)

- **All full time non-smoking workers 58%**
- Administrative and management 34%
- Manufacturing 51%
- Construction industry 76%

(Source: McGhee SM, Hedley AJ, Ho LM. Occupational and Environmental Medicine 2002; 59: 842-6)

How much of difference do smoke free policies make?

Early Evidence on the Effectiveness of Clean Indoor Air Legislation in New York State



Individual and median urine cotinine levels, by employment group.

Abrams SM et al. Am J Public Health 2006;96:296-298. doi:10.2105/APJH.2004.055012

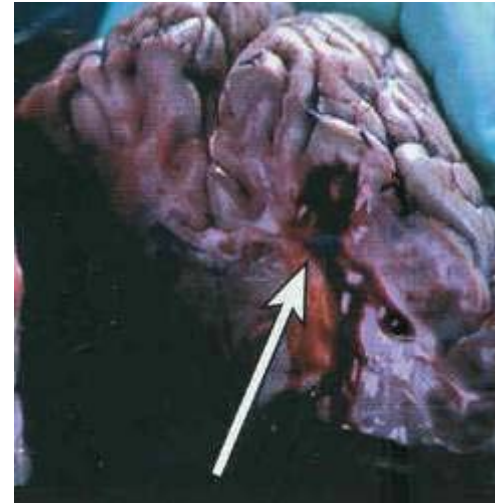
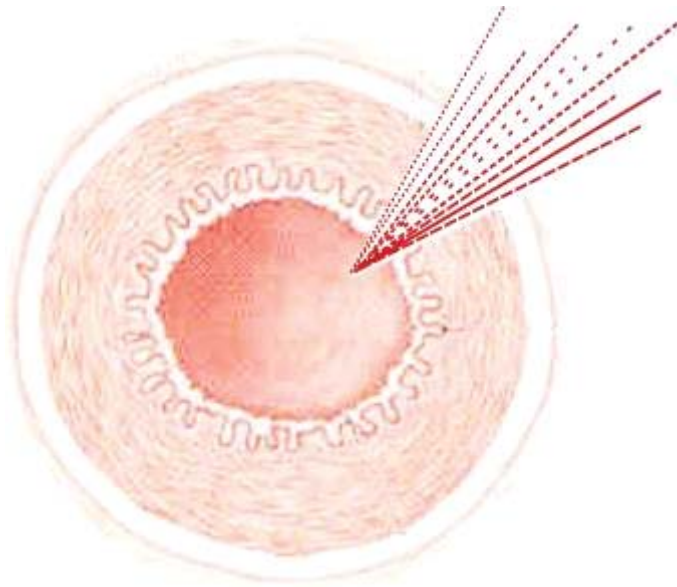
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Can exposures be reduced through increasing ventilation and “air cleaning”?

<i>Aim:</i>	Reduce exposures to level of 1 death per 100000 workers per 40 year working lifetime
<i>Current standard:</i>	2.8 air changes per hour
<i>Required ventilation:</i>	8400 air changes hour



Tobacco smoke is a cause of stiffening and rupture of blood vessels



Health Canada

Cerebrovascular disease

Do passive smokers die sooner?

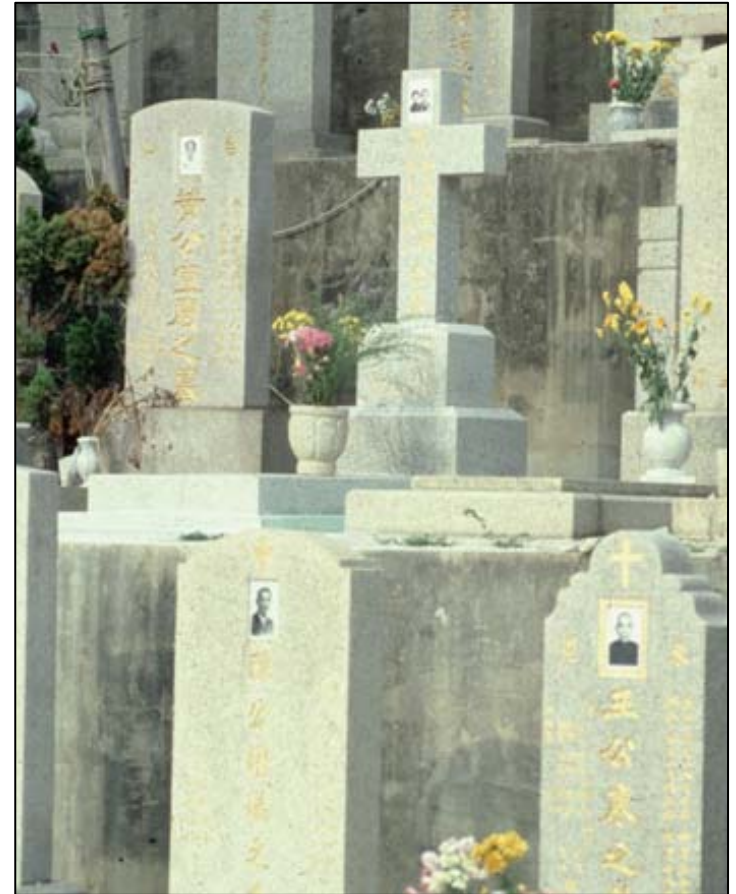
The Hong Kong LIMOR study can provide answers

Cases: 4838 never-smoking dead persons

Controls: 763 never-smoking living persons

We asked this question at the time: *“Ten years ago how many persons who smoked lived with either the dead person or the control.”*

People living with smokers were defined as exposed



Mortality and *passive smoking*: study design

Cases

Registered deaths
Never-smoker
Cause-specific analysis

≥ 60 years
Married at time of data collection

Controls

Known living persons
Never-smoker
Approx. same age as deaths

*10 years previously
Living with a smoker?*

Exposure \rightarrow

0

1

≥ 2

\leftarrow Exposure

THE “LIMOR” STUDY

Active smoking deaths in Hong Kong

- **Excess risks(men 35-69):**

Cancers	122%
Tuberculosis	154%
Chronic lung diseases	160%

Stroke	75%
Heart Disease	58%
- **Avoidable deaths:**

About 5720 people are killed each year because of active smoking



Lam TH, Ho SY, Hedley AJ, Mak KH, Peto R. British Medical Journal 2001

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THE “LIMOR” STUDY

Passive smoking deaths in Hong Kong

- **Excess risks from:**

Cancers	27%
Chronic lung diseases	99%
Stroke	49%
Heart Disease	35%
- **Avoidable deaths:**


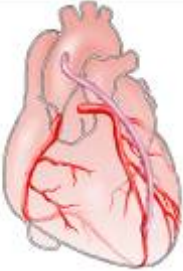
About **1324** people are killed each year because of passive smoking



McGhee SM, Ho SY, Schooling M, Ho LM, Thomas N, Hedley AJ, Mak KH, Peto R, Lam TH. British Medical Journal 2005

How strong is the evidence?

Circulatory diseases

Exposure No. of smokers at home	Increased Risk (%)	
	1 smoker	2+ smokers
 Stroke	34%	108%
 Heart Attacks	26%	68%

Active smokers will have very high exposures to second hand smoke from other smokers nearby



**“Where there’s smoke
there’s hydrogen
cyanide”**

Health Canada

THE LANCET

November 11, 2004

The whole truth and nothing but the truth? The research that Philip Morris did not want you to see

Pascal A Diethelm, Jean-Charles Rielle, Martin McKee

- ***Experimental animals exposed to sidestream smoke showed higher toxicity than those exposed to mainstream smoke***
- ***To reach the same effect mainstream smoke must be up to 4 times higher concentration than sidestream smoke***





Hong Kong Police



Department of Community Medicine
The University of Hong Kong

THE HEALTH OF THE HONG KONG POLICE

*Findings from a health survey in Traffic,
Foot Patrol and Marine police, with
special reference to respiratory health,
smoking, exposure to environmental
tobacco smoke and ambient air pollution*

Report to the Traffic Police Department
Hong Kong Police: December 1997

香港  大學

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Background

- 9923 uniformed officers in the traffic, foot patrol, and marine formation of the Hong Kong Police Force participated in the present study
- 3999 were male current smokers
- Completed a self-administered questionnaire about workplace exposure to SHS

How did we measure daily amount of SHS exposure? (Cigarette-hour)



1 cigarette in 1 hour = 1 cig-hr

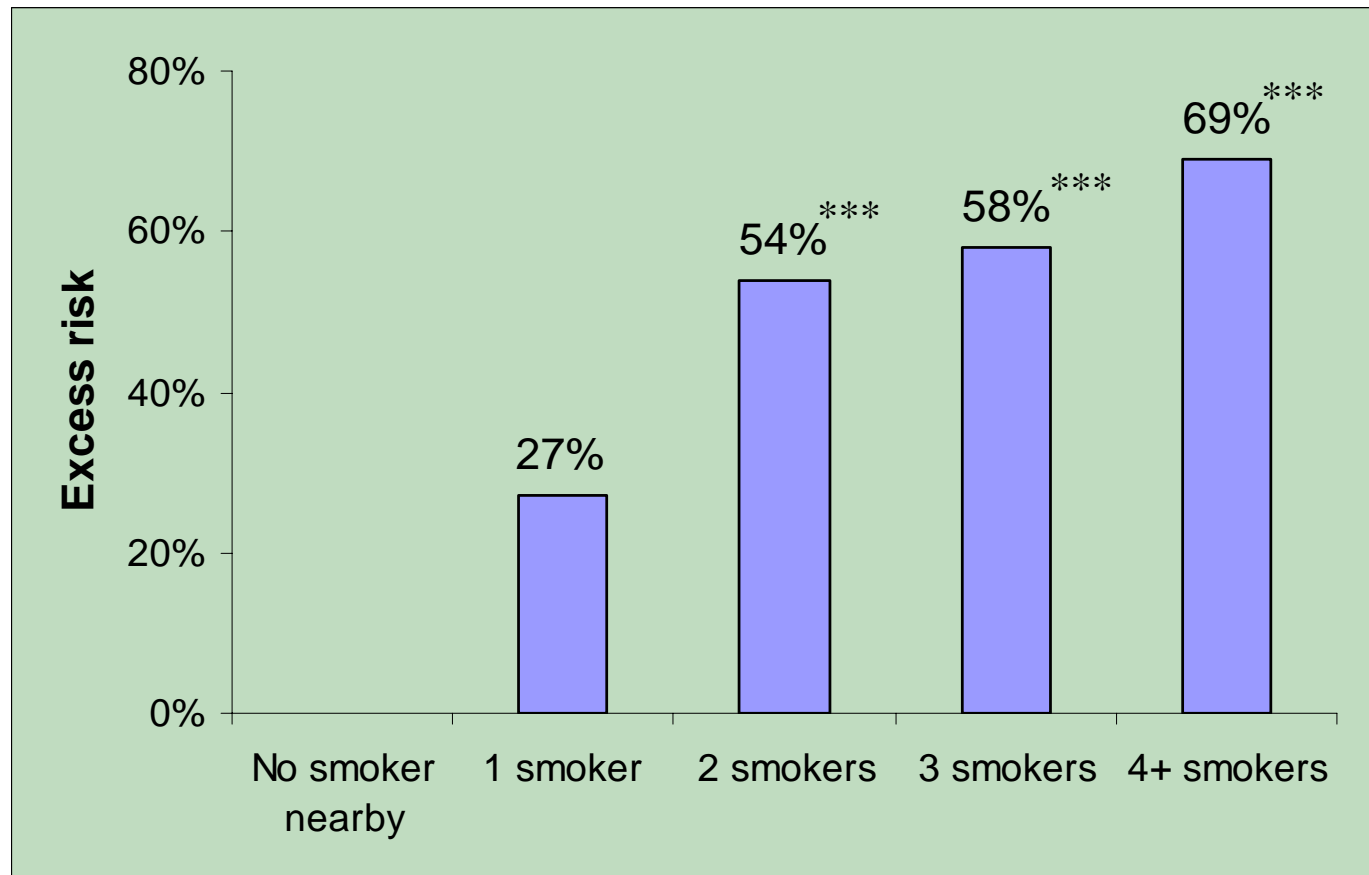


2 cigarettes per hour for 4 hours = 8 cig-hrs



4 cigarettes per hour for 12 hours = 48 cig-hrs

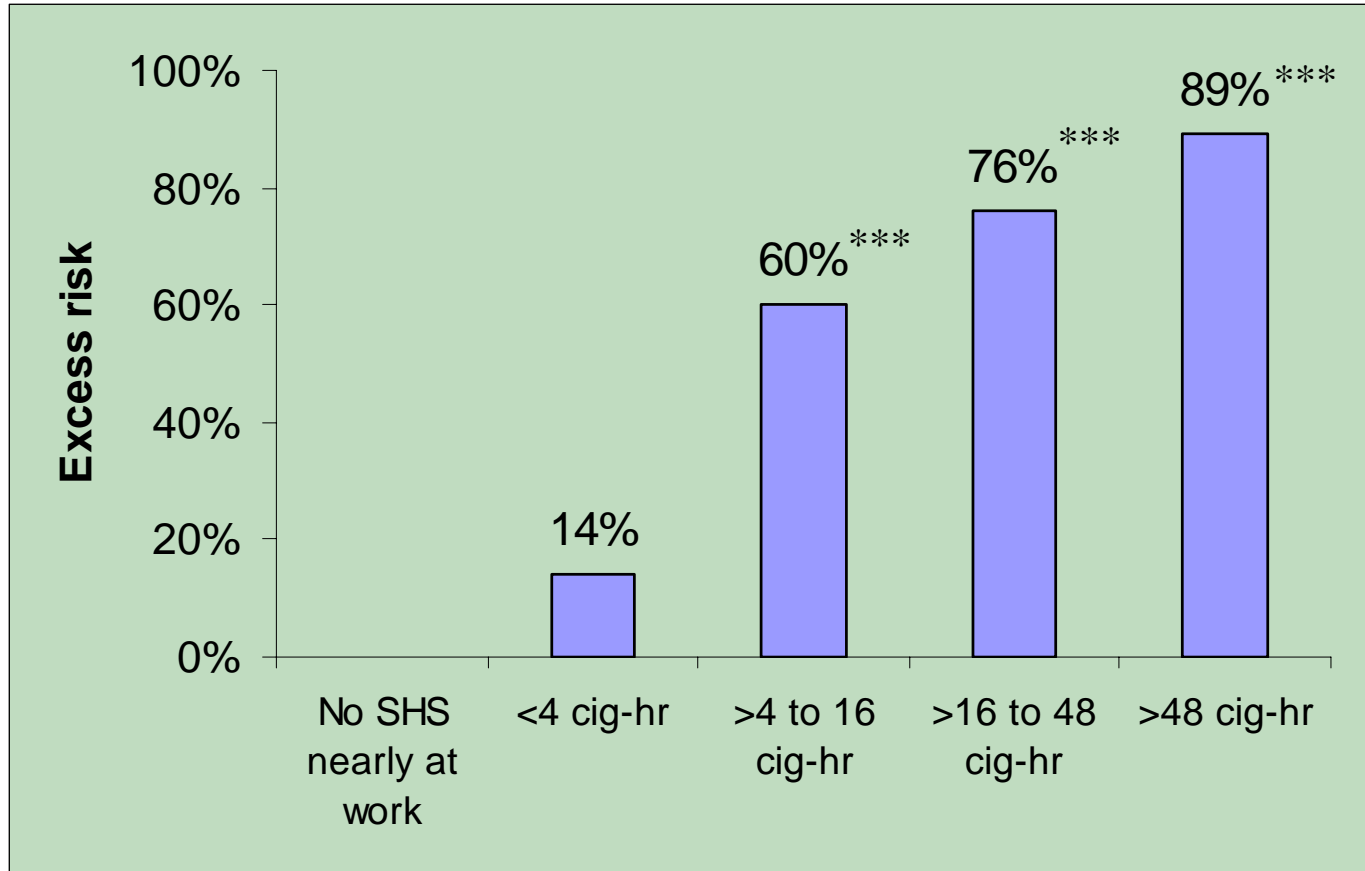
Relationship between any cough/phlegm and number of smokers at work (Excess risks: OR-1)



*** $p < 0.001$

P for linear trend < 0.001

Relationship between any cough/phlegm and daily amount of SHS exposure



*** $p < 0.001$

P for linear trend < 0.001

How strong are the findings?

- There is a clear dose-response relationship between SHS exposure and health outcomes
- The size of the effect is significant and large enough to cause increases in health care utilization and costs

No control over exposure

- In active smokers nicotine tolerance determines how much tobacco is smoked. But work and home SHS exposure is largely *uncontrollable*, significantly adding to smokers' ill-health.
- Smoking and non-smoking workers have no control over SHS exposure and injury it causes in work places where smoking continues to be permitted.
- *This new evidence increases the grounds for health protection and litigation by all employees.*

FRIDAY, MARCH 10, 2006

Tobacco industry unveils weapon in battle against ban



Edge general manager Jimmy Valentine samples the smoking room and ventilated ashtray. Photo: Dustin Shum

SATURDAY, MARCH 18, 2006

Official rules out bid by tobacco industry for smoking rooms

Jasmine Wang

The tobacco industry's bid to head off a total smoking ban in pubs and restaurants by proposing special leak-proof smoking rooms has failed to impress the government.

"The government stance is still a total smoke ban," said Health Department senior medical and health officer Christine Wong Wang yesterday.

She said there was no international safety standard for ventilation systems, and their effectiveness in removing pollutants from indoors was still unknown.

The cost of the special rooms would also be very high and only large establishments could afford them, leading to unfair competition, Dr Wong said.

Last week a 150 sq ft designated smoking room, sponsored by British American Tobacco, was unveiled at the 4,500 sq ft pub, Edge, in Central.

The Legislative Council is scrutinising government proposals to ban smoking in all restaurants, and workshops open to all age groups, by January 1, 2007. Bars open to people over 18, mahjong parlours and clubs, bathhouses and nightclubs will be smoke-free by July 1, 2009.

Health Department director Lam Ping-yan said the details of the ban were not clear now, but the direction towards a total ban was confirmed and he hoped the bill would be passed in Legco.

"Some legislators proposed a fixed penalty law enforcement,"

said Dr Lam. "It is one of the options for us, but we will see whether it is practical or not."

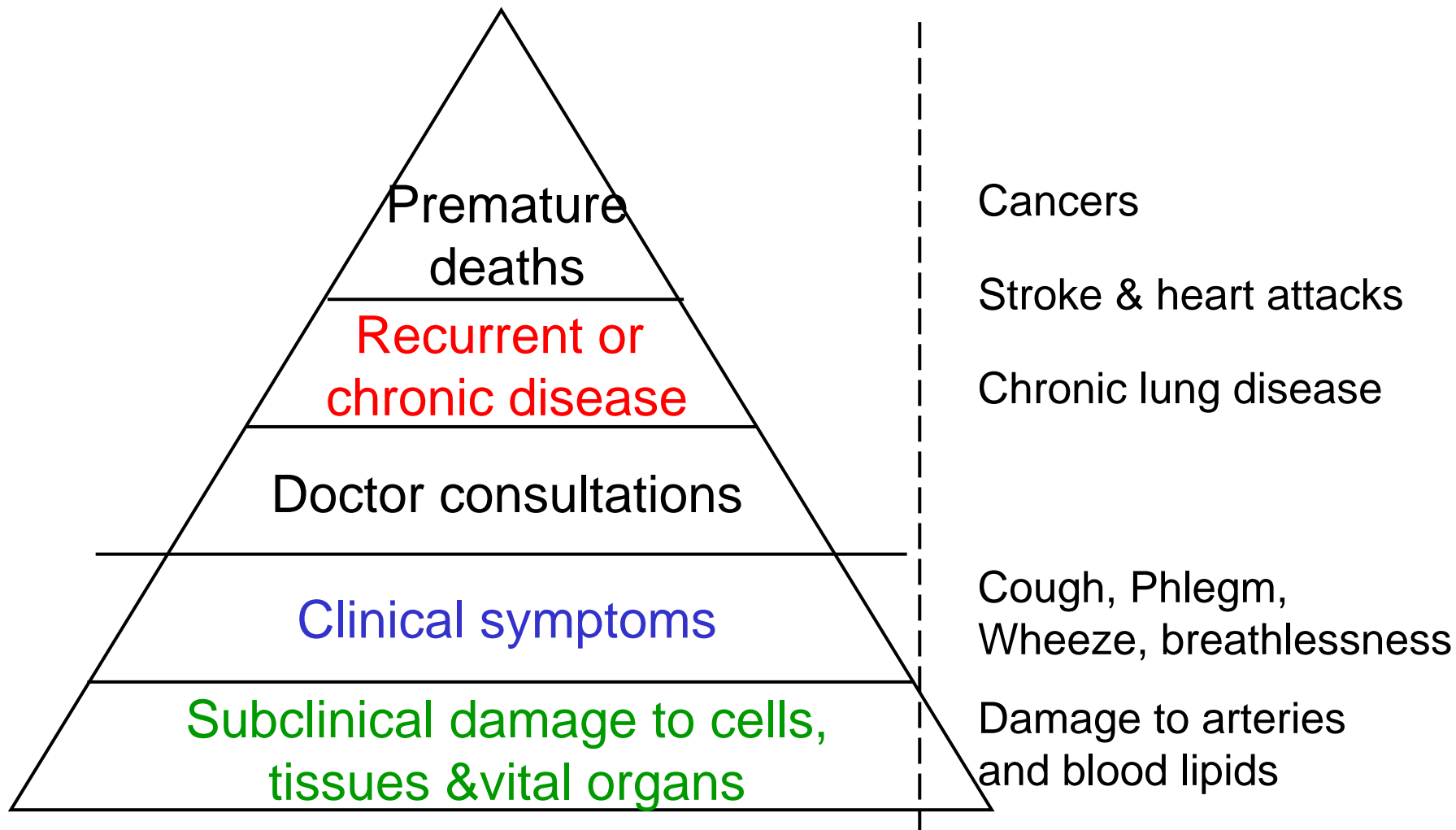
Yesterday the government and three catering associations, representing catering industry employers and workers, established a working group to support the ban. Activities such as seminars for restaurant managers and employees will be organised by the group to enhance smoke-free awareness.

"The ban will bring changes in cultural and social habits and there will be difficulties for frontline workers initially," said Yuen Wai-sing, chairman of the Association for Hong Kong Catering Services Management. "Since the ban is the trend of the times, we will face it and minimise the impact to our business."

Implications of the new findings: Are smoking rooms safe?

- The results of the present study provide a strong evidence that smoking rooms, in which there are very high levels of tobacco chemicals, will cause additional harm to smokers' health
- ***All smoking rooms should carry a clear health warning***

Pyramid of harm caused by *active* and *passive* smoking exposures





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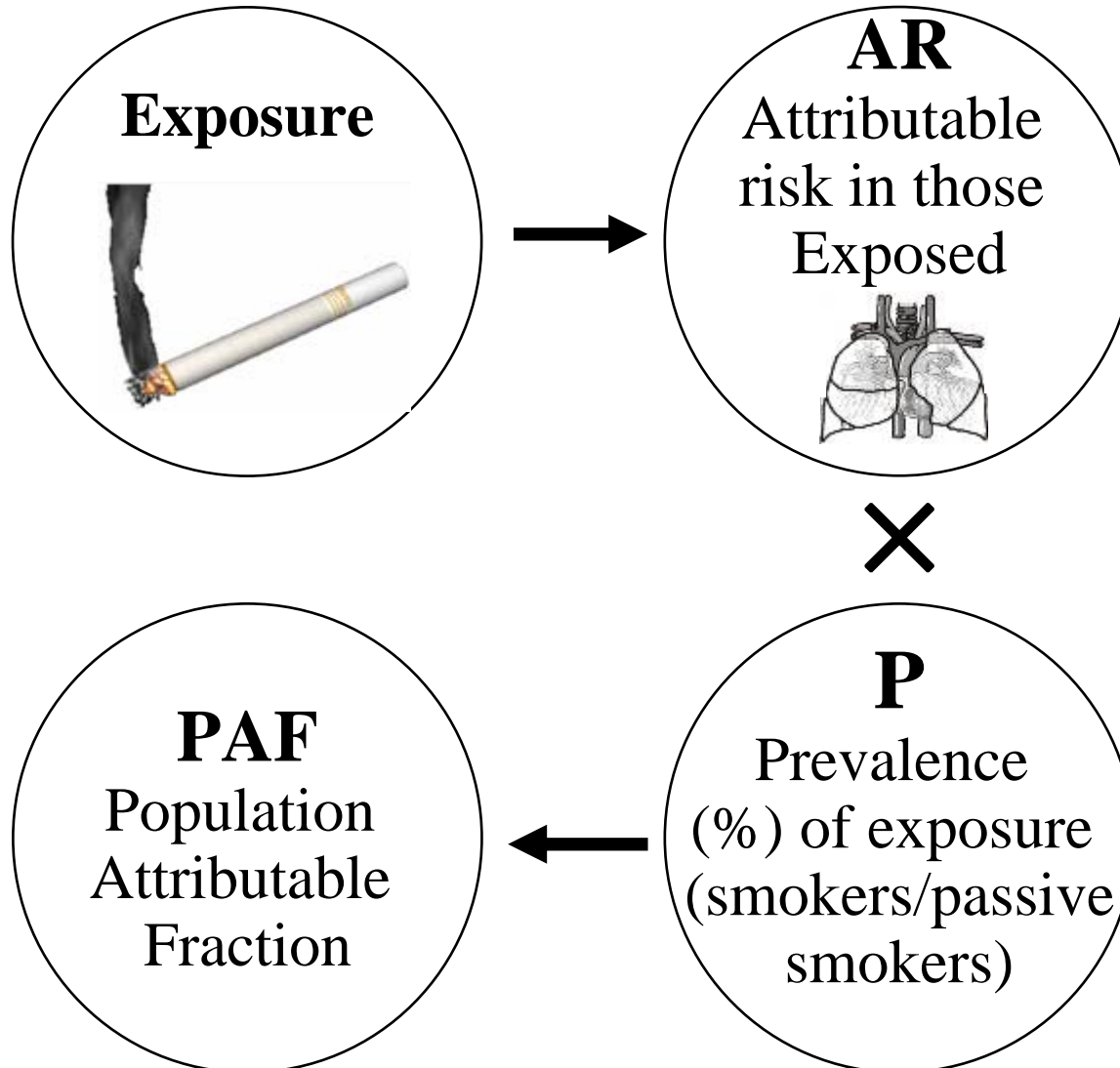
Smoking Costs Hong Kong Over HK\$5 Billion Every Year (25 B Baht)



*The first comprehensive
assessment of the costs of
tobacco in Asia*

The Population Attributable Fraction

$$\text{PAF} = \text{AR} * \text{P}$$



The population attributable fraction

“Is the proportion of disease or deaths which would be avoided if we prevented smoking or passive smoking”

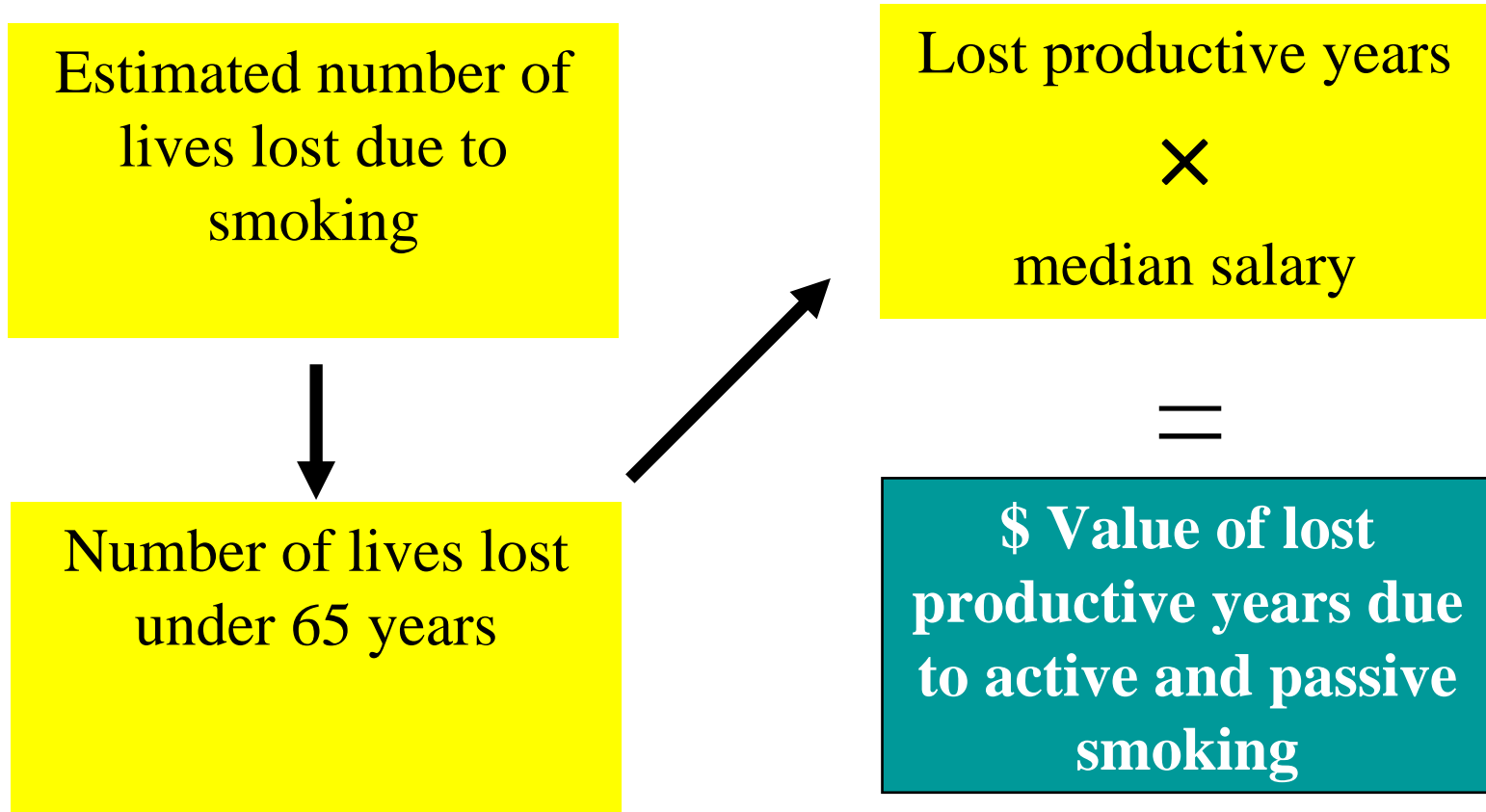
We can now estimate the costs of these avoidable health problems.

What are the health effects included in the costing?

- The impact of *passive* smoking on *non-smokers*
- Also leads to
 - **deaths**
 - **diseases requiring medical care**
 - **time lost from work**
 - **extra use of long term care due to disability**
 - ***and illness in children***

How did we do the costing? – 1

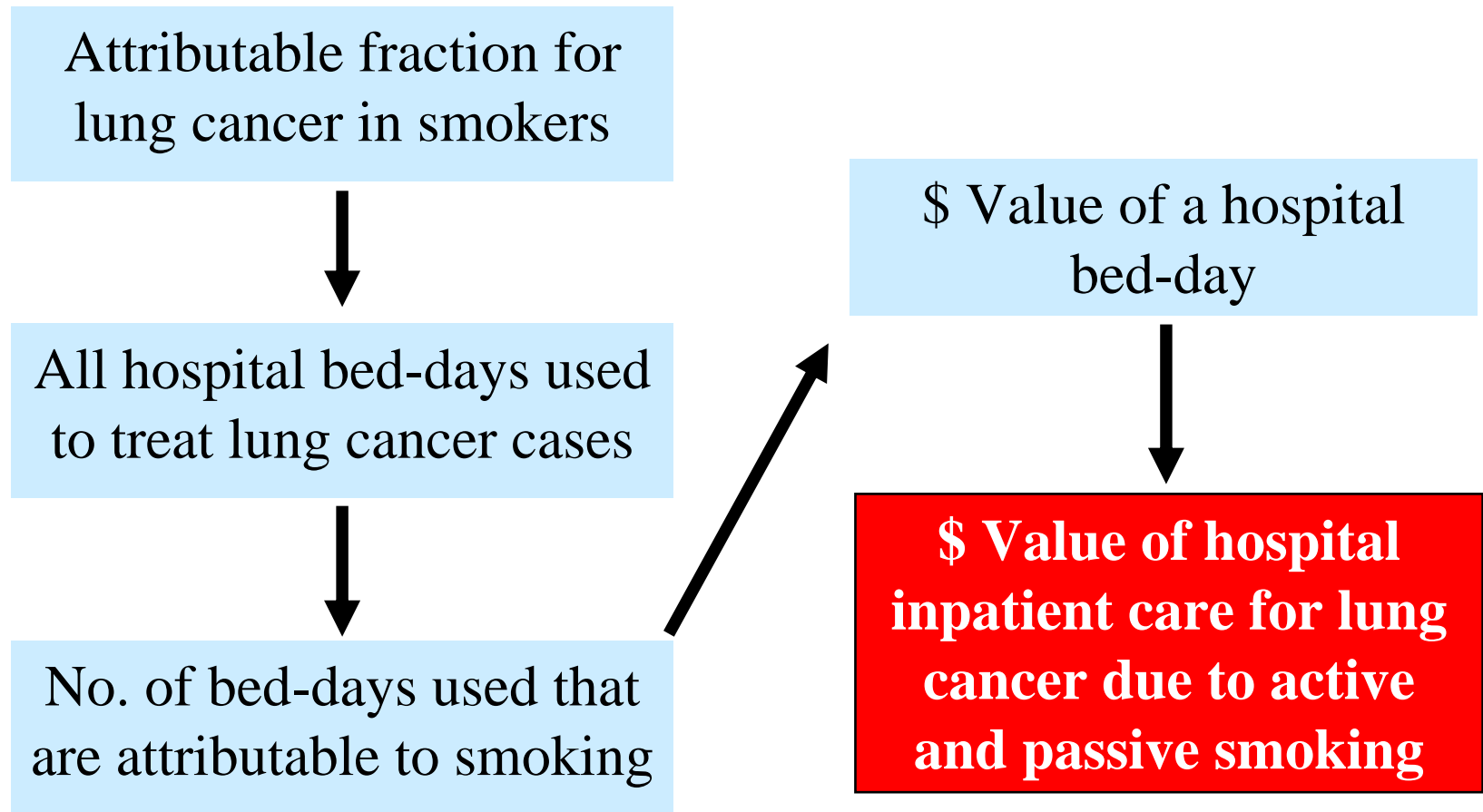
Value of lives lost <65 years



Note: All cost data was based on 1998 values

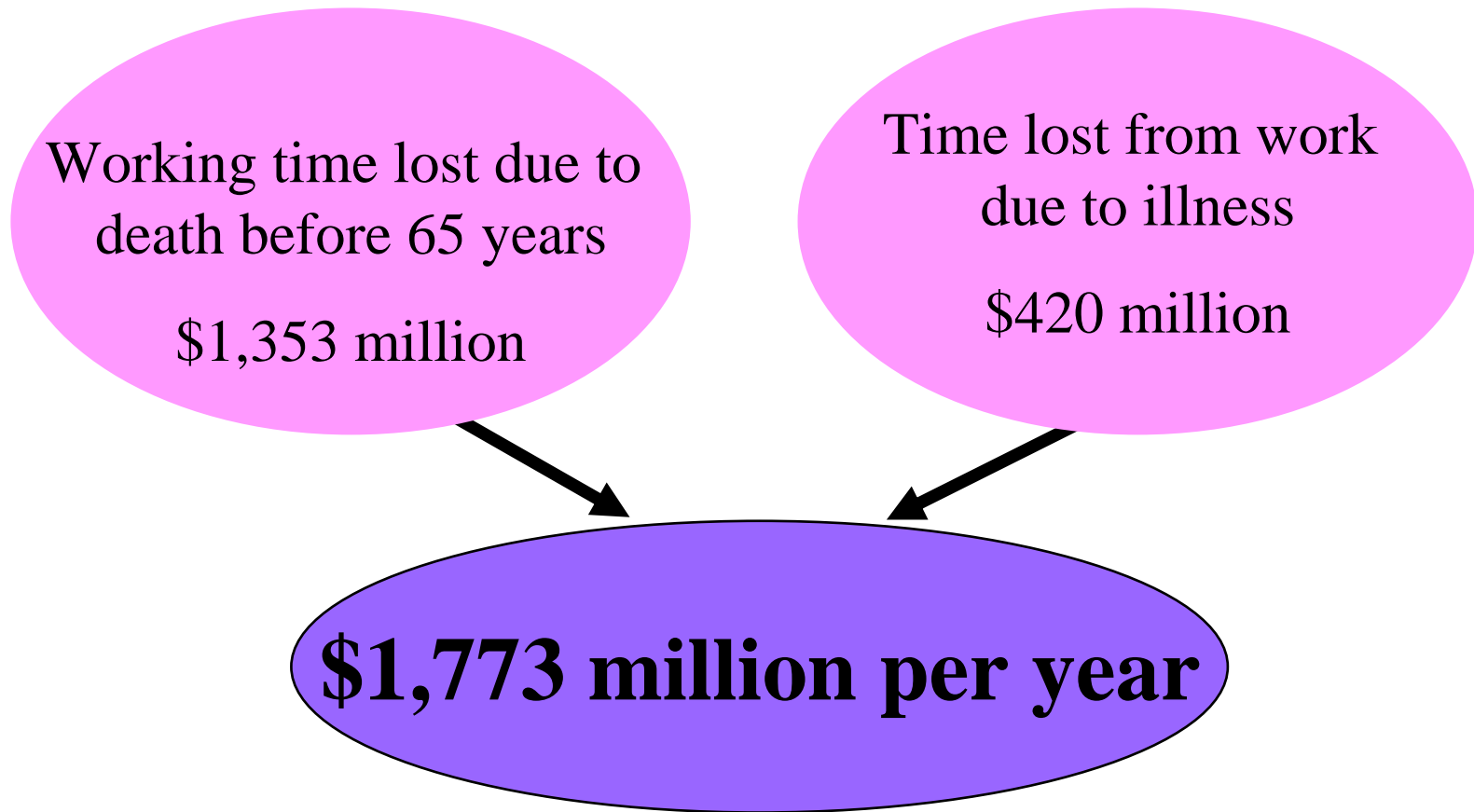
How did we do the costing? – 2

Value of smoking-related hospital admissions (example: lung cancer)

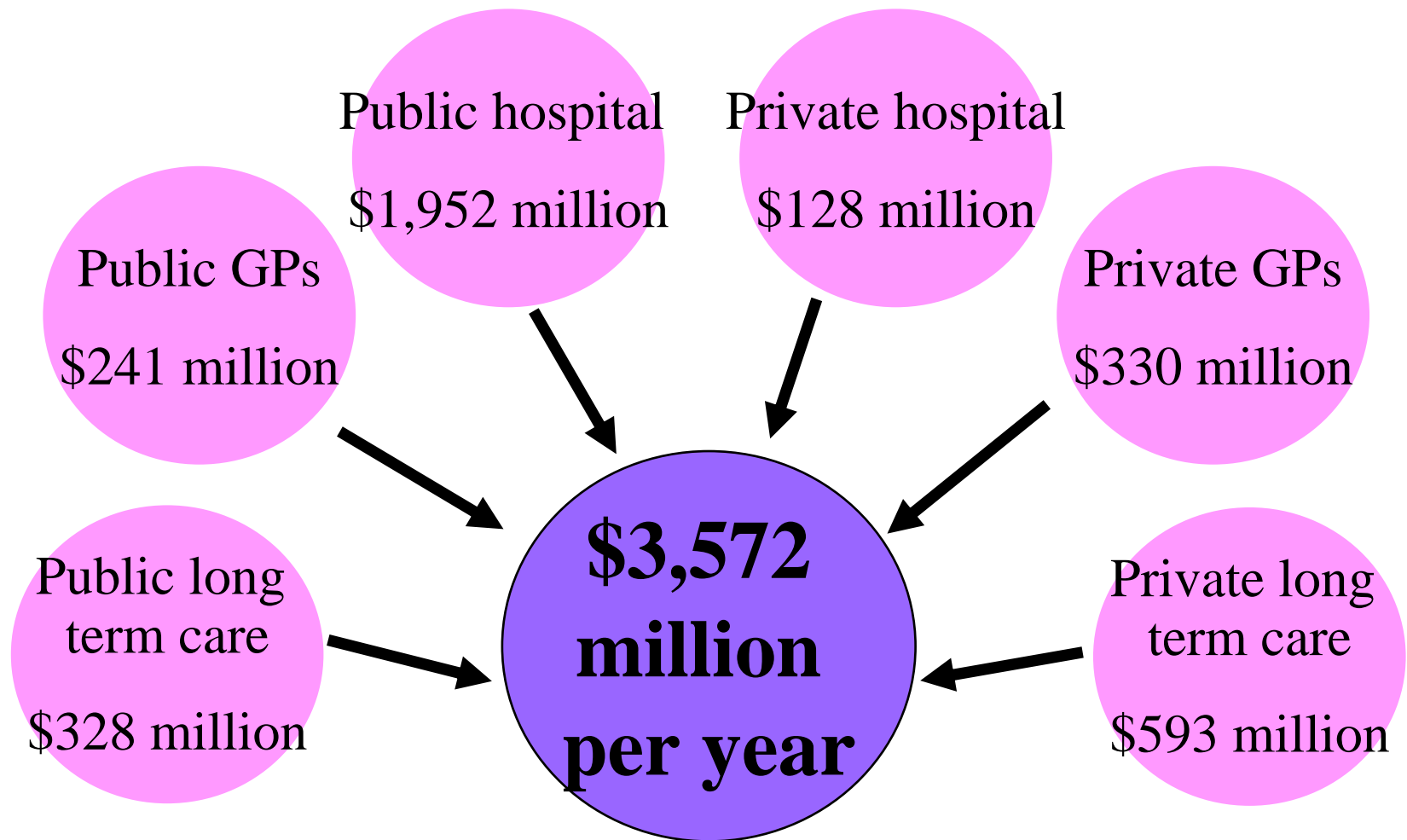


What are the productivity losses due to active and passive smoking in Hong Kong?

pop 6.8 M



What are the total direct health care and long term care costs?



What is the grand total of health related costs to the community?

**\$5.3 billion
per year**

about 28% health care cost due to passive smoking

about 82% of *health care* costs are in public sector

about 50% of all costs fall on public sector

How many deaths every year are caused by active and passive smoking?

6,920 deaths in total

3,927 before age **75** years

1,707 under **65** years

Health warning!!!

**CIGARETTES SERIOUSLY
DAMAGE THE BUDGET**

Brand X

Sale price B75

Real price B750

**DUTY
PAID
TAX
MARK**

In Thailand and Hong Kong We need to work for a smoke-free solar system

