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LITTLEFIELD

Draft of an Outline for a Background Paper on the Smoking Problem to be Used in Connection with a Presentation of Arguments Before the Surgeon General's Committee

1. Facts as Reported in the Literature or in Oral Communications

1.1 Smoking and Deaths from all Causes combined

1.1.1 A) All Types of Smoking are Associated with Increased Mortality from all causes. combined

B) Smoking cigarettes only is most strongly associated. Excess mortality observed varies from 34% - Doll + Hill to 81% Hammond--Present Study.

C) Cigarettes combined with pipes and/or cigars are next;

D) Pipes and/or cigars nearly equal in effect and much less strongly associated.
Ref. See (12) - Table 2, p. 4 which summarizes (7), (1), (2), (8).

1.1.2 For cigarette smokers who smoke regularly, excess mortality increases with current number of cigarettes smoked.
Excess mortality for 40 cigarettes/day and over between 92% and 123% in all studies reported.
Ref. (12) - Table 3, p. 5 which summarizes (1), (2), (8).

1.1.3 Excess mortality increases with duration of smoking, is higher for 25 or more years than for lesser ~~exposure~~ durations, but does not seem to increase greatly after 35 years.

Ref. (2) - Table 5, p. 1164.
A distribution of smokers by age when smoking began and current age, without mortality data given in (3) - Table 3, p. 426.
A distribution of smokers by lifetime amount smoked given in (9) - Table 2, p. 789.

1.1.4 Excess mortality decreases with length of time elapsed after smoking was stopped, but does not vanish entirely for heavy smokers.
Ref. (2) - Fig. 5, p. 1163. In (7) - Table IX, p. 1075 only for lung cancer is a significant effect noted.

1.1.5 There does not seem much difference by degree of urbanization in the excess mortality of smokers with comparable age and smoking habits.
Ref. (2) - Table 7, p. 1166

1.1.6 Excess mortality increases steeply with degree of inhalation and less on current amount smoked (preliminary findings based on limited data).
Ref. (12) - Table 4, p. 6
For distribution of smokers by current amount smoked and inhalation without mortality data--see (3) - Table 10, p. 433.

1.1.7 Excess mortality may be related to the length of butts
Butts in England much shorter than in US.
Condensate nearly 1/3 more in second 30 mm
Ref (5), Table 2; (10) - Fig 19, p.76

1.2 Smoking and Deaths from Selected Causes

1.2.1 Mortality Data for Regular Cigarette Smokers

	Coronary Art. Disease	Carcinoma: Lung	Carcinoma: Buccal	Carcinoma: Bladder	Carcinoma: Other
% of Excess Deaths					
Hammond 1952	52.1	13.5	2.7	1.3	9.4
Hammond 1959 (prel)	51.4	10.8	.9	.5	10.0
Dorn (every ... non-smo ... exc. ...)	60.7 (cardiovasc)	12.2		13.5	
Doll + Hill*	31.7	28.4			

% Excess Mortality	21 Cigarettes +	21 Cigarettes +	All Reg. Cig. Smok		
Hammond 1952	120	2240	406	100	39
Hammond 1959 (prel)	120	850	100	90	56
Doll + Hill	42	2270			
Dorn	75	1480			

Ref. (12) - Table 6, p. 8 and Table 7, p. 11; (8), Table 4 (derived by ⑨);
* Reported by Hammond in (12), p.9

1.2.2 Excess Mortality 1) higher for cigarette smokers than for others,
2) increases with daily cigarette consumption.

$a_1) + a_2)$ for coronary artery diseases

$b_1) + b_2)$ for all carcinoma combined

$c_1 + c_2)$ for lung cancer

$d_1 + d_2)$ for genito-urinary system cancers

$e_1)$ for cancer of buccal cavity etc.

Ref. (2) - Tables 1, 2 p. 1295-6; (7) Table VI, p. 1074 for $a_1)$, $b_1)$, $c_1)$, Table VII for $c_2)$; (8) Table 4 for $b_1)$, $b_2)$ $c_1)$, + $c_2)$ and broad group of cardiovascular diseases
(7) - Table VIII, p. 1074 and subsequent remarks

Tables 4, 5, p. 179 (for e_1) through

1.2.3 Lung cancer extremely rare among non-smokers.

1.2.4 Lung cancer excess mortality decreases for ex-smokers but not to normal for ex-heavy smokers.

Ref. (2) - Fig. 5, p. 1301; (7) Table IX, p. 1075;

$e_2)$ The somewhat more statistical data do not indicate that the frequency of cancer of the buccal cavity etc. increases with daily cigarette consumption

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1.2.5 Average Age at Onset of Lung Cancer the same

a) regardless of amount of smoking

generally between 45 and 70, average 57

Ref. (11), Tables I, II, p. 2, 3

b) regardless of age when smoking began

Ref. (11), Tables III, IV, p. 3

c) regardless of length of industrial exposure among ~~industrial~~ nickel and chromate workers

Ref. (11), Table V, p. 5, Table VI, p. 6

1.2.6 Lung Cancer and Chronic Respiratory Diseases

a) Veterans pensioned off with chronic bronchitis had higher lung cancer incide

Ref. (11), p. 10

b) Death rates of lung cancer and chronic respiratory diseases parallel each other b_1) by age and b_2) by country

Ref. (11) Fig. 1, p. 11

1.2.7 Other Factors than Smoking Affect Lung Cancer

A) Immigrants to New Zealand and South Africa from Britain have higher lung cancer death rates for equal consumption and, in South Africa, for similar air pollution. (Have the groups been properly controlled?)

Ref. (11) p. 13

b) Passey suspects climate ~~which causes~~ is contributing to early damage to respiratory system.

Ref. (11), p. 12

1.2.8 Death rates from Cancer of Buccal Cavity (~~Bc~~ Bc) and Esophagus Much Higher for Pipe and Cigar Smokers than for Non-Smokers (but even higher for regular cigarette smokers)

Ref. (2) Table 6, p. 1299 ~~(fairly slim data)~~ (only 20 observed deaths among pipe and cigar smokers)
Table 4, p 1298 and

1.3 Smoking and Morbidity

1.3.1 Lesions of Bronchial Epithelium

a) Heavy lesions found in men who died of lung cancer;
increase in number of epithelial cells;
loss of ciliated columnar cells;
cells with nuclei identical with those of main mass of cancer cells; microscopic carcinoma-in-situ (invasions of underlying tissue)

b) Men who died of causes other than lung cancer, showed similar lesions if they were smokers, increasing greatly with amount of smoking.
Ref. (5), fig. 3

c) Men who died of causes other than lung cancer had carcinoma-in-situ with markedly increased frequency with increasing age.
Ref. (5), fig. 4

1.3.2 Relation of Chronic Respiratory Diseases to Smoking

a) For both sexes, all chronic respiratory diseases, chronic bronchitis, irreversible obstructive lung diseases were of decreasing prevelance among:

cigarette smokers (cigarettes only or in conjunction with cigars or pipes)
pipes and/or cigars
ex-smokers
never-smokers

Ref. (9) - Table 3, p. 790

b) For cigarette smokers, all of the above categories of disease plus the sub-category of the last where no existing heart disease was reported, increased in prevalence with increasing current amount of smoking.
Ref. (9) - Table 4, p. 790

c) also with lifetime consumption of cigarettes
Ref. (9) - Table 5, p. 791

d) after standardization for current amount of smoking there persists an age effect for all of these categories, but is less important.
Ref. (9) p. 790

e) No significant relation found with
civil (marital) state
residence area within city
place of birth
Ref. (9) p. 792

1.4 Smoking and Physical Complaints

1.4.1 The following is a listing of physical complaints associated with current regular cigarette smoking in descending order of statistical significant association as measured by ratio of number observed/expe

	All Males With Complaint		Males With Moderate or Severe Complaint	
	All reg. smokers	21+cig.	All reg. smokers	21+ cig.
Cough	3.08	3.87	4.09	6.03
Loss of appetite	2.48	3.11	2.82	3.54
Shortness of breath	1.97	2.63	2.62	3.87
Nausea or vomiting	1.41	1.59	2.15	3.00
Blood in stool	(1.19)	(1.42)	(1.88)	2.83
Pain or discomfort in lower abdomen	1.24	1.40	1.72	1.93
Pain or Discomfort in chest	1.40	1.59	1.65	2.00

Ref (6) - Table 2, p. 148; Table 3, p. 149

1.42 Current amount of cigarette smoking has marked effect on degree of with moderate or severe cough

moderate or severe shortness of breath

but little effect on

pain in chest

loss of appetite

nervous tension

Ref. (6) - Tables 4, 5, 6, 7

1.4.3 Degree of inhalation has marked effect on moderate and severe cough and moderate and severe shortness of breath

Ref. (6) - Tables 10. 11

1.4.4 Nicotine content of cigarettes has only small effect on moderate and severe cough

Ref. (6) - Table 12