

products, friction materials, and cotton textile products workers, despite the fact that workers in industries where asbestos exposures are possible show increased SMRs for cancer of the respiratory system and for "all other diseases of the respiratory system." There is a sharp contrast between SMRs for lung cancer and other respiratory diseases among asbestos products workers as compared with cotton textile workers. The very low respiratory cancer rates among cotton textile workers is of interest and could bear further investigation.

In the case of asbestos friction material and asbestos textile products workers the excess in deaths from respiratory diseases was entirely due to deaths from asbestosis. On the other hand, among asbestos building products workers the excess in deaths from respiratory diseases is not due solely to asbestosis and it seems likely that other respiratory disease hazards exist in that industry. Deaths for other diseases were not remarkable in the asbestos building products and friction materials industries, although in the asbestos textile products industries cancer of the digestive system appears to be high, as was the category "all other heart disease" (which includes cor pulmonale).

Conclusion

For the asbestos products industries studied, health hazards as a result of the inhalation of asbestos dust have been concentrated mainly in the asbestos textile industry in the United States and have apparently caused the overall mortality of workers in that industry to be 21% above that which might be expected based upon the experience of the US white male population as a whole. Excess mortality among asbestos textile workers can be entirely accounted for by elevated death rates for cancer of the respiratory and digestive systems, a category of heart disease which includes cor pulmonale, and asbestosis. Asbestos dust has apparently had some effect on certain causes of death in the other asbestos products industries studied, although this effect has not been great and has not appreciably disturbed overall mortality rates. If one were to assume an expected mortality rate for all causes in the as-

Table 4.—Standardized Mortality Ratios, White Males Aged 15 to 64 Who Worked in Selected US Asbestos and Cotton Textile Plants at Some Time During 1948-1951, by Cause of Death and Type of Product*

Cause of Death	Asbestos Building Products	Asbestos Friction Material	Asbestos Textile Products	Cotton Textile Products
All deaths	88.5	88.8	120.6	88.2
Tuberculosis (001-019)	47.4	(28.4)	(88.2)	99.2
Cancer (140-205)	88.1	102.3	148.4	69.7
Digestive system (150-159)	88.8	119.2	146.3	96.3
Respiratory system (160-164)	130.4	123.7	228.6	(31.1)
All other cancer (residual)	60.4	74.1	96.2	75.5
Stroke (330-334)	65.8	83.8	(89.7)	125.8
Heart disease (400-443)	93.7	90.1	118.3	87.9
Coronary heart disease (420)	96.5	90.8	98.6	91.5
Hypertensive heart disease (440-443)	98.5	(60.8)	(264.7)	76.3
All other heart disease (residual)	76.3	98.0	176.5	72.1
Diseases of the respiratory system (470-527)	149.6	150.9	392.9	59.4
Influenza and pneumonia (480-493)	97.4	(45.8)	(60.6)	(70.8)
All other diseases of the respiratory system (residual)	240.5	287.1	833.3	(44.4)
Accidents (800-962)	94.4	96.1	82.9	113.4
Suicides and homicides (963-964, 970-985)	84.2	84.2	(100.0)	100.0
All other causes (residual)	72.0	63.5	84.0	79.4

*In this Table, deaths for which no certificate could be located were assumed to have the same distribution by cause as those located. Parentheses are used when the number of deaths observed is less than 10.