

October 13, 1981

Mr. Parger,

We will be  
contacting you this week  
concerning this proposal.

Yours truly,  
Joel Swartz  
for myself and  
Dr. S. Eysker

FEDERAL OCT 13 1981

001-100-0000

AREAS OF INTEREST AND PROPOSED RESEARCH1. CONTINUING RESEARCH ON AND REBUTTAL OF "LIFESTYLE THEORIES" OF CANCER CAUSATION

The "lifestyle theory" of cancer causation has recently received widespread publicity in both the scientific and popular press, and is developing growing support within the scientific and medical community. According to this "theory", most cancers are caused by activities of personal choice, such as cigarette smoking, eating foods high in fat content, or over-consuming alcoholic beverages, while the role of exposure to occupational and environmental carcinogens is small or negligible. Our past research has shown that proponents of this theory attribute far more of the cancer burden to lifestyle factors than can be substantiated by scientific evidence. For example, we have demonstrated that the role of exposures to occupational carcinogens has been trivialized or neglected as major factors in the causation of lung cancer, and cancers at other sites. Likewise, we have demonstrated that claims concerning the cancer causing role of dietary fat were based on skimpy and contradictory evidence, and were later refuted by other studies. We plan to continue to make critical investigations of the evidence for the near exclusionary roles of lifestyle factors and to make rebuttals further to those which we have already developed and published (Nature, vol. 289, 15 January 1981, p. 127).

11. CONTINUING RESEARCH ON MAJOR ROLE OF EXPOSURE TO OCCUPATIONAL CARCINOGENS IN CAUSATION OF CANCER OF LUNG AND OTHER SITES

Many recent studies have demonstrated an increasing number of occupational cancers among workers in a variety of petrochemical and other industries. These studies support the theory that the well-documented epidemics of occupational cancers, such as those among asbestos workers and coke oven workers, are only the most visible of a very large number of occupational cancers, which we believe comprise a substantial, if not major, fraction of all cancers in the United States. We plan to try to improve estimates of the role of occupational carcinogens in given industries by carefully analyzing the epidemiological studies in these industries, comparing cancer rates of workers with appropriate background rates, and using statistical and modeling techniques to determine more accurately the number of cancers due to occupational exposures. Inferences drawn from standard occupational epidemiologic studies will probably underestimate this figure because of a variety of limitations, including: low statistical power; dilution of the pool with persons who have had low exposure or short exposure periods; and, less than lifetime followup. We will make additional attempts to improve estimates of the role of occupational carcinogens in this area by applying techniques we have developed for extrapolation from high to lower doses to estimate the effects on workers' of exposures relatively lower than those in highly exposed and well-documented groups.

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III. DEVELOPMENT OF FORMAL CRITIQUE OF "THE CAUSES OF CANCER: QUANTITATIVE ESTIMATES OF AVOIDABLE RISKS OF CANCER IN AMERICA TODAY" BY RICHARD DOLL AND RICHARD PETO, PUBLISHED IN THE JOURNAL OF THE U. S. NATIONAL CANCER INSTITUTE (JNCI, JUNE 1981)

This 111 page paper is the major theoretical document supposedly giving scientific support to the "lifestyle theory" of cancer causation. In fact, many of its conclusions result from skimpy evidence, arbitrary dismissal of contradictory evidence, invalid extrapolations from existing data, and quotations from like minded individuals whose scientific support is similarly weak. We propose to do a thorough point-by-point critique of the document, and to submit a rebuttal for publication to JNCI.

IV. ANALYSIS OF TRENDS IN LUNG CANCER RATES AMONG NON-SMOKERS

One of the best available methods to determine the relative importance of occupational carcinogens, as opposed to cigarette smoking, as a cause of lung cancer is to observe time trends in lung cancer rates among non-smokers. Several articles indicate that these rates have increased sharply during the 1950s and 1960s. This conclusion has, however, been challenged. We will make a thorough analysis of the papers and studies in this area, sort out contradictions in the literature, and try to reach the most accurate assessment of the actual trends.

V. ANALYSIS OF EXCESS LUNG CANCER RATES AS FUNCTION OF PROXIMITY OF RESIDENCE TO MAJOR INDUSTRIES

County-by-county studies have indicated substantial excesses of lung cancer in counties, with high concentrations of certain industries such as petroleum refining and smelting. Estimates of excess risk due to ambient pollutants emitted from these plants are likely to be low because of such major confounding factors as wide geographic differences in pollutant levels and population mobility. On the other hand, it is generally not possible to define with great accuracy what proportion excess cancers in any cluster result from occupational as opposed to environmental exposure from point source industrial emissions into the local community. We intend to study one or two sites in great detail in order to better estimate the number of cancers due to exposures to ambient pollutants. We also plan to make a thorough critique of some recent articles which have trivialized the importance of point source industrial emission exposures in spite of a growing body of epidemiological and monitoring studies which demonstrate the importance of proximity of residence to industry as a major risk factor for lung cancer, besides cancers at other sites.

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VI. COMPUTER SIMULATION OF LUNG CANCER TRENDS

lung cancer rates have been increasing sharply in the past decade, and many have pointed to this fact as evidence of the importance of increased exposures to occupational carcinogens in causing lung cancer. Others have sought to dismiss the increasing lung cancer rates as merely a reflection of increases in smoking occurring 20 to 30 years ago. We have developed a computer model which takes into account such factors as the declining rate of smoking, changes in smoking patterns with age, and the effect of cessation of smoking. We will use the model to predict how the recent decline in smoking rates should have affected current lung cancer rates, and therefore, whether the current rise in lung cancer could be due to factors other than smoking. We will also use the model in analyzing epidemiologic studies to better assess the effects of exposure to occupational carcinogens.

584.027085

PROPOSED BUDGET

<u>A. PERSONNEL</u>		<u>SALARY</u>	<u>FRINGE</u>
Joel Swartz, Ph.D.	100%	25,000	4,000
Research Associate	100%	20,000	3,200
Secretary	100%	14,000	2,240
Total		68,440	
<u>B. OTHER</u>			
Computer Use		10,000	
Travel		2,000	
Supplies & Misc.		<u>4,000</u>	
<u>C. TOTAL DIRECT</u>		84,440	
<u>D. OVERHEAD</u>		To be negotiated	

NOTES

This should be regarded as a "start-up" budget which will allow the development of selected areas of research from among those listed above.

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