Pauling should have verified the facts before making either assertion.

I, for one, question Pauling's second-mentioned paper (*1*), and not because of improper statistical treatment of data. Rather, the issue is the question of "Who has, and when does one have, a common cold?" As a practicing anesthesiologist I must often decide such an issue, in view of the presumed increased hazards of administering general anesthesia to a patient with a preexisting respiratory infection. In a substantial number of instances, such a decision cannot be made, by myself or by many other physicians. It is then difficult for me to see how this uncertainty can become a certainty once it has been processed statistically.

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Reference

1. L. Pauling, *Proc. Nat. Acad. Sci. U.S.A.* **68**, 2678 (1971).

Cancer Prevention

Nicholas Wade (News and Comment, 30 June, p. 1402) refers to the Conquest of Cancer Program as the "cure cancer crusade" or "the fight to cure cancer." We certainly want to cure cancer. A cured case is visible evidence of the efficacy of our research. But probably more important than curing the disease is preventing it, even though a prevented case is rarely visible. It is doubly upsetting to see references to all our work as "cure cancer" activities in the same piece in which Wade writes about a new research center (Fort Detrick) that will be devoted mostly to problems of viruses and chemicals that "cause cancer."

Substantial progress has been made in preventing cancer. The antismoking campaigns have been much more effective than many people seem to be aware of. So much so that if there is anything to the smoking-cancer link, we should soon see declines in lung cancer mortality in white males. From 1965 to 1970, 42 percent more men and 37 percent more women became "former smokers." (A 1970 survey showed that 37 percent of all male smokers had quit; the corresponding figure for women was 27 percent.) Cigarettes now contain much less tar and nicotine than they did 10 years ago.

However, the incidence of lung can-

cer in women and in blacks is increasing. Too many women smoke; too few are giving it up. At one time the ratio of male to female deaths from lung cancer was nearly 7 : 1. It is now 4 : 1, and not because male deaths have declined. The antismoking campaigns have not done as well as we would like among women, and among blacks. There is a need for a vigorous, well-directed, antismoking campaign that would appeal to blacks, to women, and to young people.

Several cancers are already declining rapidly as causes of death: cancer of the uterine cervix in women (in part due to introduction of the Papanicolaou smear, even though the decline started before the Pap smears were introduced; we look upon better personal hygiene, and soap and water, as important factors too); cancer of the stomach (in both men and women); and acute lymphocytic leukemia—the disease for which so much success in treatment has been reported by the chemotherapists. There has been a decline of almost 50 percent in the reported incidence in children under age 5. This decline has been reported by the cancer registries in Connecticut and California for the second half of the 1960's compared to the first half. Whether the reduced incidence is due to a reduction of prenatal irradiation, as Fraumeni and Miller suggested some years ago (*1*), or to a reduction in influenza infections in pregnant women, as a recent British study (*2*) suggests, is not clear. Both reduced radiation exposures and reduced influenza are consequences of good public health measures.

Not everything on the prevention front looks good, however. The incidence of cancer among blacks is rising alarmingly. Deaths from cancer of the esophagus are going up for blacks while they are going down for other segments of society. There are some clues that the increase is related to exposure to carcinogens combined with dietary deficiencies. It is possible that a minor dietary modification, or additive, could be preventive.

Increased sexual freedom leading to earlier intercourse and to more sexual partners may turn the trend of cervical cancer deaths upward again. If this change does occur, we should see it first among white middle-class women, who now have the lowest rate of death from cervical cancer. Cancer of the pancreas is increasing too, and we don't know why.

With the cooperation of the National Institute for Occupational Safety and Health, the Environmental Protection Agency, the Department of Labor, and state departments of industrial health, many industrial carcinogens have been taken out of use. With hesitance on the part of the Department of Agriculture, the use of some carcinogenic food additives and pesticides is now being sharply proscribed, and perhaps more of them may soon be eliminated. The Atomic Energy Commission has repeatedly lowered allowable levels of radiation exposure. Experimental work supported by the National Cancer Institute has demonstrated that a less hazardous cigarette (for mice at least) can be put together. All these things will reduce the incidence of cancer.

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References

1. J. Fraumeni, Jr., and R. Miller, *Science* **155**, 1126 (1967).
2. J. Fedrick and E. D. Alberman, *Brit. Med. J.* **1972-II**, 485 (1972).