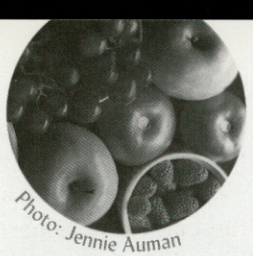
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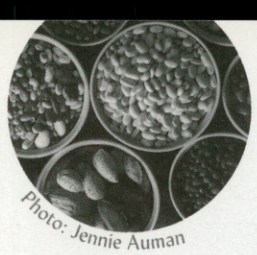
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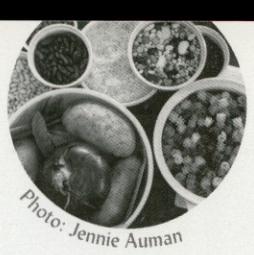
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Countering the Theories of Big Tobacco:

My Memories of the First Studies of Adventist Health

By Frank R. Lemon

One of the more frightening health problems of the twentieth century was the catastrophic exponential increase in American deaths from lung cancer, as first noted by several medical investigators in the late 1950s. The findings of Doll and Hill, Cuyler Hammond, Harold Dorn, and others in England and the United States, painted a somber picture in contrast to commercial messages from tobacco companies.[1] "I'd walk a mile for a Camel," "Luckys. It's the taste," were a couple of the slogans. The Marlboro Man puffed smoke from a huge billboard on Times Square—at least until the real-life model for him got lung cancer. Even at public health conferences in the 1950s, presenters were so obscured by tobacco smoke that it could be difficult to see listeners at the back of the room. As the epidemic expanded, so did the financial health and the excesses of Big Tobacco.

Meanwhile, Seventh-day Adventists went about their daily lives almost untouched by this epidemic. I had wondered for years if the Adventist lifestyle had any verifiable impact on the health of its practitioners. No one I knew had ever studied the issue. We were long on lifestyle rhetoric but short on facts. I began to look for possible ways to fund a study. The 1950s was a time when politicians were leading the nation to "wars" on cancer, heart disease, and a lot of other problems that would simply be "wiped out." We could lick anything. Population studies, for example in Framingham, Massachusetts, and Tecumseh, Michigan, and with groups like the Issei—Nissei, were being discussed, and they stirred a whole new epidemiologic interest in noninfectious diseases. The time was favorable.

Once, during a casual meeting with Walter McPherson, dean of the College of Medical Evangelists (later Loma Linda University), I mentioned my interest. Shortly thereafter, Ernest Wynder, a young, sharp, enthusiastic, and able clinical epidemiologist from the Sloan-Kettering Institute of Cornell University, asked McPherson how he could get a handle on Adventists for a study of their experience with lung cancer. Wynder had been in Utah and given up on Mormons as a potential group to study. Remembering our conversation, McPherson introduced Wynder to me.

We became friends, but we had different ideas about a lot of things, including how to research Adventists. For fast results, he favored what we termed a "quick and dirty" case-control method that essentially compared the smoking history and admission diagnoses of hospitalized Adventists with those of matched non-Adventists ("controls") admitted into the same hospitals. I favored a longer, slower, more precise, and carefully done "prospective" study of causes of death in the entire Adventist adult population in California. We agreed to help each other on both fronts.

The liaison with Wynder was a happy accident. He supplied a lot of initial ideas, drive, knowledge, experi-

ence, confidence, and enthusiasm. He knew all of the important people in the field—both in America and Europe. He also knew movie moguls, actresses, politicians, news people, and research-granting agencies—and he knew who had money. Over time, Wynder introduced me to many such movers and shakers, which afforded me quicker access than I could have otherwise gained in my late-blooming research life. He outlined the approach for the case-control studies that incorporated my knowledge of and connections with Adventist hospitals in California, Illinois, the District of Columbia, and New England. He did a lot of the thinking, and left most of the record search and interview scut work to me! He was smart!

In April 1958, about nine months after my first meeting with Wynder, we had completed enough work to give a preliminary report to the California Medical Society meeting at Los Angeles.[2] Wynder presented the paper, argued its tentative conclusions, and expanded its impact. We both answered questions, and he took the lead in a news conference that followed. I was almost overwhelmed by the attention that followed.

I think our collaboration benefited Wynder and his studies; I know it helped me and the College of Medical Evangelists. Wynder turned out to be an articulate no-holds-barred presenter of data and ideas, often debating with people like Clarence Little, chairman of the Tobacco Industry Research Council. As a greenhorn, I realized my good fortune to have become a partner with Wynder. Early in our partnership I did not have the standing or the experience to manage challenges smoothly, as he did. Our initial joint study and its reporting lasted until its conclusion in 1960.[3]

The First Study of California Adventists

While the case-control study was underway, I pushed forward with the long-term prospective study. The National Cancer Institute funded it substantially in 1958, with a commitment for five or more years. This would be a prospective mortality study of California Adventists—the entire adult Adventist population in the state—which numbered 65,000, according to church records. For the study, we developed first a simple questionnaire primarily aimed at getting enough demographic information on those 65,000 people, person by person, to describe the population at risk.

Later, this demographic information was expanded by enrolling and joining our subjects to the huge national study of the American Cancer Society, under the direction of Cuyler Hammond, who later encouraged the ACS to provide a very timely bridge grant for the Adventist study. We also enlisted the aid of Lester Breslow, head of the California Department of Public Health, and his accomplished departmental cancer epidemiologist, Jack Dunn. Our arrangement called for us to supply Breslow and Dunn with records of all Adventist deaths reported by church clerks, and the statistical office of the Public Health Department would provide us with photocopies of death certificates for all deceased Adventists. The death end of the study worked out heavenly. It was the living end that was, well, something else.

The membership records of the churches, upon which I had relied, and which had provided numbers for our grant applications, proved close to fiction. In many churches, only half the listed members could be found. During visits to all California churches we enlisted one or more "captains" in each congregation to solicit questionnaire returns, check for missing members, and double check death reports. Our captains were generally enthusiastic supporters and, although volunteers, did their jobs well. But they found it difficult to locate a lot of members. The study group shrank from 65,000 to around 47,000. The shortfall almost ended our study.

A second major problem emerged in the conference offices among ministers and administrators. These shrinking violets were "reluctant" to support research for which they could not predict the outcome. Research had "dangers!" How did I know it would not "show us up"?

Francis D. Nichols, stalwart editor of the *Review and Herald*, helped save us. He strongly supported us in the publication and in private conversations. Once, at a Central California Conference "workers" meeting where we labored to enlist support, the brethren were shuffling and waffling. Nichols suddenly leaped to his feet and admonished them in no uncertain terms. As I recall he said, "For years now we have all been doing these things that God led us to do for our health. If we have been doing the wrong things all that time, I want to know it NOW! If we have a truth, how can that truth hurt us?" Surprised to see him pop up unexpectedly and shamed by his words, the audience remained silent. The ministers joined in the project and, with many others, were mollified as reports of our work and findings began to appear in scientific journals of merit, as well

as in *Time, Reader's Digest*, and elsewhere.[4]

Our initial focus was on the risk of lung cancer among Adventists as a unique American subculture. But our vision expanded as we found them escaping not only the lung cancer epidemic, but also other respiratory cancers and emphysema.[5] To my surprise, they also had fewer than expected incidents of coronary artery disease, heart attacks, stroke, and miscellaneous cancers. We went on to find a substantial advantage in Adventist life expectancy. We attributed most of that to the Adventist lifestyle, which included an almost total avoidance of tobacco. Several investigators since then have built on that rough beginning and are still following it up and entering other data into the population.

Responding to Big Tobacco

The initial mortality studies among Adventists helped provide an interesting answer to a barely plausible theory of Clarence Little. According to him, smoking and lung cancer occurred together merely as the result of some unidentified "selection factor"—a constitutional, hereditary, neurohormonal, or who-knew-what-factor—that occurred in "selected" individuals who smoked and had the disease.[6] We could point out that, if Little was correct, this factor was most remarkable (and adjustable).

The extreme rarity among Adventists of the most virulent forms of lung cancer already known to be related to tobacco suggested that the absence of his selection factor in lifetime Adventists must somehow also be related to another "very narrow lung cancer protective band of constitutional or genetic structure in that group." Otherwise, it was remarkable that Little's selection factor not only predisposed certain people both to smoke and contract lung cancer, but also made them more likely not to be born into Adventist families or to convert to Adventism and its lifestyle! However, the factor did occasionally operate "selectively" in a few converts to Adventism who had a smoking history and died of lung cancer. Thus, we arrived at a different concept of "selection," borne out by the study: namely, that smoking-related types of lung cancer that occurred among Adventists were almost entirely "selected" from that small minority of Adventists who also happened to have a significant history of smoking.

Wynder's use of this argument in a debate with Little influenced the *New England Journal of Medicine* to suggest that continuing "explanations" by tobacco apologists reminded it of a little boy on the streets of Boston who saw a number of double amputees sitting on the sidewalk selling pencils. The boy turned to his mother: "Mother, why does selling pencils make your legs fall off?" Wrote the editor: "The question that those who suggest devious explanations for the clear association between smoking and lung cancer must answer is, 'why does getting lung cancer make one smoke so much?'"[7]

In 1965, actuary T. Abelin used statistics to predict that the superiority of the nonsmoker's life expectancy compared to that of smokers should be "in the same dimension as the whole of that achieved in the last 40 years with all of the progress in the medical sciences and the improvement in the general living conditions."[8] In 1969, the final paper in our mortality series enabled us to verify Abelin's prediction. According to our findings, Adventists males at the age of 40 had a life expectancy 6.1 years greater than smoking and nonsmoking counterparts in the general California population, and 5.3 more years at the age of 50. For women, the advantage was 3.5 and 2.9 years, respectively.[9]

Corroboration of Abelin's prediction that one factor, cigarette abstinence, outweighed all of the advances in medicine and surgery during the period from 1929 to 1969 may have been one of the best contributions we made in the initial Adventist mortality studies.

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