

**THE SUPPOSED DEATH-RATES
OF ABSTAINERS AND NON-
ABSTAINERS AND THEIR
LACK OF SCIENTIFIC VALUE**

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Edward Bunnell Phelps

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BY

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AFTER a study of all available data on the subject, about two years ago I compiled and published under the title of "The Mortality of Alcohol" a tentative statistical approximation of the adult mortality of the United States in which alcohol possibly might figure as a causative or contributory factor. My findings were based upon the independent percentage estimates for each of 106 causes of deaths kindly made for me by the Medical Directors of three well-known American insurance companies. The book by no means purported to have solved the complex problem with which it dealt but was offered merely as a possible starting-point for detailed scientific discussion of the actual relations of alcohol and adult mortality in this country. It was so accepted by the leading medical journals, and was generally received by the reviewers as a pioneer effort in its field. Since the publication of this preliminary study—or first aid to the injured, very much injured, *facts* in the case—I have endeavored to keep track of the contemporaneous literature of the subject, and to collect all serious contributions to the discussion of the relations of alcohol and human mortality.

The more I have collected, and read and thought on the subject, the more I have been impressed with the widespread

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circulation of misleading figures, and conclusions as to the alleged death-rates of users and non-users of alcohol which in my judgment seem to be unwarranted. The reading of the text of a discussion of the subject before the Association of Life Insurance Medical Directors of America, in the recently-published transactions of that important body for the years 1906-1911, has shown that at least some competent observers concur with my views of the unreliability of many of the figures and conclusions on these lines. And it has therefore seemed worth while, in the interest of a sober discussion of this phase of modern vital statistics, to endeavor to present herewith and calmly weigh the figures and supposed facts which of late years have been repeatedly cited as bearing on the alleged difference between the death-rates of abstainers and non-abstainers.

That there is a difference between the death-rates of the two sections of the community loosely grouped as "drinkers" and "non-drinkers" is extremely probable—in fact, practically certain. A similar statement might safely be made of fat men and lean men, tall men and short men, ministers and lawyers, physicians and bookkeepers, stone masons and cabinet-makers, and almost innumerable other distinctive groups of men. As to the truth of this sweeping generalization, there is not the slightest doubt; confirmations strong as proofs of holy writ are to be found in the great mass of tabulated classifications of life insurance experience for the last fifty years and more, and the carefully-kept vital statistics of England, Germany and some other countries for long stretches of years.

But—and in the case in point this short word is one of momentous importance—how can there possibly be a scientific determination of the difference between the death-rates of any two groups of men until there has been an agreement as to the precise boundaries of the groups? In other words, how can the difference between the death-rates of users and non-users of alcohol be even approximately calculated until there has been a separation of the sheep and the goats, so to speak, that is, the non-drinkers and the drinkers in the community under observation? Until there has been a meeting of minds on definitions of these groups it is no more possible to fix the death-rates of the two groups and the difference between

them than it is to engage in rational argument without a prior agreement on certain premises. This prerequisite for scientific computation of the relative death-rates of the two groups above named apparently has not occurred to the vast majority of the people who have rushed into the discussion of the subject in books, and periodicals, and pulpits, and in the avalanche of Prohibition literature which has swept over this country of recent years.

NOT THE SOUNDEST OF BASES, BUT A QUICKSAND

Aside from the ultra enthusiastic anti-alcoholics, whose emotional embrace of the subject precludes any serious consideration for mere facts and figures, the bulk of the participants in the discussion have plainly been inclined to regard as the soundest of bases for their argument and conclusions the alleged life insurance experience with so-called total abstainers and non-abstainers. On the strength of twenty years' somewhat intimate acquaintance with the statistics of the insurance business, I can only regard this supposed base as a mere quicksand in so far as trustworthy evidence of the actual difference between the death-rates of users and non-users of alcohol is concerned. There is quite an array of life insurance figures which conclusively prove a difference between the death-rates of persons insured in the abstaining and non-abstaining classes, but after a thorough study of all available data on these lines I am satisfied that no competent and unbiased person who has carefully examined these figures will conclude that they by any means prove either one of the two points so vehemently advanced by the Prohibition spokesmen, namely, (1) that they establish the actual difference between the death-rates of drinkers and non-drinkers, and (2) that they afford a mathematical measure of the mortality directly chargeable to the use of alcohol. Of course I do not for a moment expect that I can convince my Prohibitionist friends of either of these negative deductions. It is no easy matter to prove any negative, and to establish to the satisfaction of the average Prohibitionist the unsoundness of any one of his pet arguments is hopeless. I am, however, quite ready to rest with any unbiased reader, or competent student of statistics, the soundness of my deductions from the evidence below presented.

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At the Twenty-second Annual Meeting of the Association of Life Insurance Medical Directors of America, held at New York City in October, 1911, Dr. T. F. McMahon, medical director of the Manufacturers' Life Insurance Company, of Toronto, presented a paper on "The Use of Alcohol and the Life Insurance Risk," and included in his paper certain figures showing the mortality experience of some English life insurance companies with separate classes of so-called abstaining and non-abstaining policyholders, which are discussed on subsequent pages of this paper. Dr. McMahon's address was followed by a general discussion of the subject by members of the Association of Medical Directors, and in part the report of the discussion reads as follows:

Dr. Dwight (Medical Director of the New England Mutual Life)—I have made out some figures in the experience of our Company which I think may be worth while calling to your attention. I am sure that we have all been interested in the figures that have been given, and I am sure that there can be no question as to the accuracy of such figures, but *I am equally sure that if such figures are published without some qualification, they are apt to give a false impression, and they are apt to be accepted by certain portions of the community at an unfair valuation.* I am sure that most of you gentlemen appreciate the importance of having your classes homogeneous, and this particular investigation shows, I think, the value. *There are many more factors, I think, than the one question as to whether an individual drinks or not, which should be taken into consideration. I imagine the mortality of the total abstainer in the Presbyterian clergyman class and the total abstainer in the bartender class would be quite different, and included in these large groups are a great many cases which are influenced by habitat, other habits, occupation, residence, type of life, and many other factors.*

I am not going to take up much of your time, but I have before me figures on habits in our Company for the past sixty years, both on liquor and tobacco. I bring them up to show two or three rather interesting points. In the first place our figures on the habits as to the use of alcohol agree almost exactly with those which have been given us. We divide them into four classes. No man acknowledges, or very few men acknowledge, that they are excessive in the use of liquor. We divide them into the Total Abstainer, Rarely Use, Temperate, and Moderate. By "rarely use" we mean the man who says that he perhaps twice a year at a dinner drinks two glasses of champagne. While we have every reason to believe that this is an honest statement, it is not quite fair to say he is a total abstainer. Otherwise they are divided by the individual's own statement—in many instances in-

correct. In many instances the total abstainer is a total abstainer because he has to be and has been advised to be, but take them as they run, we find the total abstainer with a mortality of 59% of the American Table—these are rough figures; Rarely Use, 71%; Temperate, 84%; and Moderate, 125%. If we let these figures stand as they are, it is accumulative evidence to demonstrate that we ought all to stop drinking the next minute, and that we ought to divide our applicants into abstainers and non-abstainers; but let us see what the effect of tobacco is. We find that the total abstainer from tobacco has a mortality of 57% as against 59% when he is a total abstainer from alcohol; that the Rarely Use is 72% as against 71% from alcohol; that the Temperate is 84% as against 84% for alcohol; and that the Moderate is 93% as against 125% for alcohol. In other words, the mortality on the total abstainer from alcohol is almost absolutely the same as that on the total abstainer from tobacco. It may be said that a man is usually a total abstainer from both, but he is not necessarily so. It does mean, I think, that we are describing the same kind of groups, the same type of man, the same conservative type of man in the total abstainers from both kinds. Then to show you the numbers—we find that out of 180,000 cards, 42,700 were total abstainers from alcohol—at least they said they were—while the total abstainers from tobacco were 41,100—almost exactly the same number, 13,000 rarely used tobacco, while 20,000 rarely used alcohol. *I only bring them up as they are, simply as a suggestion that before we accept all total abstainers on a different premium or before we talk very much about doing it, we had better be sure that it is all due to total abstinence from alcohol or tobacco, and we had better go a good deal further in our investigations in our attempt to make these groups homogeneous, before we here as an Association or as individuals advocate very strongly the wide separation between total abstainers and those who rarely use.*

Dr. Emery (Manhattan Life Insurance Company)—I would like to make a suggestion for statistics in the future, and that is to find out how much a man eats, for oftentimes it is much more important. A man who is an overeater is not likely to live as long as some excessive drinkers. In other words, a man's habits of eating, and whether he performs the daily functions of life regularly and properly, is what we should know, and if we can only know that, I think we would do a great deal more than we do now, and do more for our Companies. It is most important. The man who is known as a club-man, a free liver, is generally an early dier (pp. 473-6, Abstract of the Proceedings of the Association of Life Insurance Medical Directors of America, from the Seventeenth to and including the Twenty-second Annual Meeting, New York, 1912).

Dr. Dwight's observations clearly stated the danger of taking too seriously the figures of the handful of English life com-