

Dr. Dublin

In re: Dr. Armstrong's Suggestions for the Investigation
of Heart Disease in Relation to Predisposing Causes

The topic might be discussed in either one of the two following ways:

1. By some attempt at numerical correlation measurements.
2. By general descriptive discussion.

Discussion of (1). The method (1) has been tested and it has been recommended that no reliance be placed on correlation coefficients obtained by comparing time series of heart disease and certain other diseases, with an arbitrary lag introduced by trial in such manner as to produce the highest possible correlation coefficient. It does not seem desirable to reopen this question, the chief objection to this method being that the sequelae of such diseases as rheumatism, whooping cough, etc. are so spread over a series of years after the prime cause that no correlation study can be expected to effectively detect the true cause and effect relation which undoubtedly exists; any correlation coefficients that may be found by this method are very apt to be due to something quite different than the relation that is really being investigated.

Discussion of (2) We have good material on which to base a descriptive discussion, gathered together in our work sheets for the book on mortality. A really good descriptive discussion is valuable even though it may not involve correlation or similar technique. Dr. Armstrong, in his memorandum of August 13th expressed interest particularly in the trend of heart disease fatalities at ages 30 to 60. As the work sheets now stand, we cannot give data on precisely this age group but we can give data at 35 to 65. The sheets before me cover a. Organic heart disease; b. Endocarditis and valvular heart disease; c. Chronic myocarditis; and d. Angina pectoris.

Among the items enumerated above the case of chronic endocarditis and valvular heart disease is peculiar in showing for the period 1921 to 1930 a marked decrease at ages 35 and over, whereas all the other causes listed show increases, and in some cases very great increases.

The effect of the influenza epidemic seems to be clearly visible in all those series which we have been able to carry from the year 1911 to 1929. There is a sudden drop in deathrates for the year 1919 as compared with the year 1918, followed by a tendency to return to the old level or to exceed it, except in the case of chronic endocarditis and valvular heart disease.

As to the relation between heart disease and certain predisposing causes, these sheets, of course, give no clue. A discussion of this topic can be conducted along the lines of information gathered from general experience. This, it is true, would not in itself bring forward anything very novel, but it would quite properly form part of the discussion of information contained on the work sheets relating to heart disease.

If it is desired to have data expressly for the group 30 to 60 years, mentioned by Dr. Armstrong in his memorandum of August 13th some additional computation would have to be made.

Alfred J. Lotka

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