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November 25, 1975

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Professor Felix Moore  
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Dear Felix:

Financial and temporal limitations kept me from Anaheim where, I believe, your "final draft" material of the Pooling Project was discussed. Here are some comments on that material. First, we all are, or should be, grateful for the huge amount of careful work you have done.

Some questions about the draft will be answered, no doubt, in the method chapters to come. However, I shall mention some points I believe should be covered without requiring the reader to go through the detailed presentation of methods.

In general, I believe the ms. would benefit from some alteration in balance to give less space to elaborations of univariate and more to multi-variate analyses. At the same time, we should realize that the Pooling Project has produced results of interest and importance but they are not, in the second half of the seventies, unexpected or, in general, newly informative. So efforts at compression are warranted. But specific remarks may be more useful.

In the INTRODUCTION, p. 19 and elsewhere, e.g. SUMMARY Pt. 1, p. 2, we still have the tiresome matter of defining "relative weight" as the ratio of "recommended" or "ideal" weight (even the Met has abandoned the term "ideal"). I object again, futilely no doubt, to confusing a value judgment with simple height and weight and the automatic hidden confounding with age. This becomes even more objectionable when, as in this ms., there is no treatment of relative weight in a multivariate analysis.

In several places, e.g. INTRODUCTION p. 23, the term "apparently healthy" is used without definition. In other places it is indicated that the analysis is confined to men without evidence of coronary heart disease at entry. Is this what is meant by "apparently healthy?" What about men with other cardiovascular disease? Are they in the analyzed cohort?

Since the analysis in this report does not consider men less than 40 at entry, I think Table Int-1 should be confined to men 40 and over at entry. In the case of the Minnesota RR group, this would only slightly reduce the number of men.

In Table Sys-1, and similar tables Dias-1, Chol-1, Rwt-1, Smo-1, I would prefer to compare men who eventually did with those who did not have new events. As it is, these tables point toward answering the question: "Do men who develop CHD differ from the cohort of all men, including themselves?" I would rather ask, do men who develop CHD differ from men who do not develop the disease? I can, of course,

calculate from the data in the tables the means and SDs of the men who did not develop CHD but this is clumsy.

Re all those tables, I think "Z" should be described rather than asking the reader to plough through the eventual detailed "Methods." In Table Sys-2 and counterparts for other variables, I think some explanation is needed at this point. And in Table Sys-4 and later counterparts, it would be useful to have a word on the estimation of "confidence interval."

Similarly, in Table Sys-5 and the like some explanation is needed for "standard  $\beta$ ."

In Table Rwt-1 it seems that the typist omitted a value in the next-to-last line for ages 40-44 and 50-54.

As mentioned above, I think the multivariate section is inadequate, both in extent and in explanation. In any case Table Mult-1 does not, to me, show that the coefficients of the logistic from Pool 5 "predict the trend in the other three studies quite well." At least not for LA and Minnesota RR.

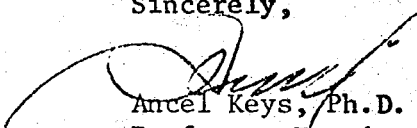
Finally, reverting to relative weight, I would much like to see results using the body mass index (= kg wt/m.height<sup>2</sup>). Ideally this would include analysis of hard CHD incidence as related to BMI and age and again as related to BMI, age and systolic blood pressure. For that purpose I think all the Pooling Project areas except LA could be pooled because the hard CHD diagnoses seem to be reasonably comparable and I see nothing wrong with the comparability of age, weight, height and systolic BP measurements. I hesitate about the weights in "street clothes" but I suppose only an average discrepancy of three pounds might be involved.

If you do not wish to go further on relative weight as suggested above, perhaps you and our other colleagues would agree that I take a shot at it. I think Jerry Stamler has the final edited tapes (my copies are pre-final) and perhaps he and I could take on that job together.

I look forward to receiving the remaining draft material. Perhaps we may meet in New Orleans at the next Council meeting. My problem is travel expense, especially as I will be in Italy for January and most of February.

Best wishes.

Sincerely,



Ancel Keys, Ph.D.  
Professor Emeritus

AK:mh

cc: Drs. Blackburn, Chapman,  
Doyle, Epstein, Kannel,  
Paul, Stamler, Taylor