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Dr. Henry Blackburn
University of Minnesota
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Dear Dr. Blackburn:

I was very happy to finally meet you at the Brookings conference on prevention and workability. As I promised during our brief conversation at the conference, I am sending several papers on risk factor modeling that you may find interesting.

One paper is simply the manuscript that I prepared for the conference. This paper presents an overview of methodology for relating risk factor intervention to changes in disease occurrence to changes in various dimensions of disability at specific older ages.

The second paper, prepared for the National Academy of Sciences, is an overview of methodological issues in modeling of health transitions at later ages, e.g., modeling the effect of age in different ways on temporal change in the implied effect of risk factors on disease risk at later ages. The third paper reviews the effect of controlling risk factors in different ways with aging changes represented by an underlying Gompertz function. The two additional technical papers deal with dependent competing risk phenomena and the estimation of the basic risk factor model.

The papers above describe changes in risk factors, and correlated mortality selection as a multivariate continuous state stochastic process. Often data do not fit clearly into that characterization. In this case we have developed a very general model for describing discrete state, discrete time stochastic processes that do not require

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any distributional assumptions. This model is especially appropriate for modeling the interaction of social and health variables. The application of that model to a large multicenter community study in California is described in one paper while more technical details are described in the other.

I hope that these papers prove interesting. Most of the examples in the methodological papers are from Framingham. Analyses have been run with data from the Finnish East-West study and Kaunas, Lithuania. Analyses of the Evans County Study and for four studies from the WHO ERICA project are underway. These studies are to be reviewed by W.H.O. NCD in Geneva. I have also been working with the chronic disease group at CDC Atlanta, on some of these efforts. In addition I am preparing a paper to be presented at NHLBI on the methodology where I will examine in detail the issue of tracking which the model represents very generally.

If the modeling efforts appear promising, perhaps it would be worthwhile discussing the models further--possibly even leading, if desirable, to some collaborative work. I am working with several people in your Policy School on some analyses for which I may make a trip to Minnesota later in the summer. That may be an opportunity for further discussion. Furthermore, I had an opportunity to discuss some of these issues with Bob Kane recently in Winnepeg at a meeting sponsored by the Economic Council of Canada. He seemed to think that some of the methods may have promise.

I look forward to hearing any reactions you might have. I realize that further substantive work needs to be done in the application of these models and I would appreciate an opportunity to discuss these issues further with you should the opportunity arise.

Sincerely,

Kenneth G. Manton, Ph.D.
Research Professor
Demographic Studies

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cc: File