Measuring and modeling health and aging

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Abstract

I will talk about the problem of evaluation of health status in individuals using information from epidemiological and clinical databases. A typical database contains a large number of health related characteristics of various kind, from clinical signs and symptoms to laboratory measures. The list is extending quickly with different "omics" data and potentially may have hundreds even thousands of records for an individual. How to make health assessment of individuals from such a data is not clear. One increasingly popular health utility measure has been suggested in Dalhousie about two decades ago. That measure best known as a frailty index (FI) is presently widely used in multiple research projects in gerontology, epidemiology and even in clinics world wide. I will briefly discuss some problems of creating and using the FI in statistical modeling, including longitudinal data analysis. I will also discuss the paradigm (or a common strategy) of variable selection that sometimes contradicts to what we advocate. Finally, I will mention the network modeling approach that is currently under development at Dal.