Statistical solutions : Debiased estimates for rate of, and prognostic effects on, progression to cirrhosis for Hepatitis C-infected individuals-when analysis is based on Hepatitis C-infected patients referred to liver clinics

DATE & TIME of SEMINAR : Wednesday, 12 October 2005 at 10:30am – 11:30am  
VENUE : NIE 5-01-04 (Executive Seminar Room)  
SPEAKER : Dr Bo Fu  
HOST : Prof Ling San

Abstract:

We will discuss the statistical solutions to estimating biases for rate of, and prognostic effects on, progression to cirrhosis for Hepatitis C (HCV)-infected individuals when analysis is restricted to Hepatitis C-infected patients referred to liver clinic. Referral to liver clinics is increasingly likely the closer the patient is to development of cirrhosis. Thus liver clinic studies will surely over-estimate the progression rate. We have designed stimulation experiments to illustrate the sort of referral bias patterns and have investigated the effect of referral bias on regression coefficients in both the accelerate (AL) failure time model and the proportional hazard (PH) model. As we anticipated, prognostic effects on HCV progression will be under-estimated. This simulation design was informed by preliminary analyses of two liver clinic HCV cohorts from Edinburgh and Cambridge, UK. We also used the stimulated clinic cohort data to investigate the performances of the proposed debiassing methods: left truncation; incorporation of frailty; and finally, reweighting, which reweights the likelihood by the inverse of probability that a subject in population would be selected to clinic.

About the speaker:

Dr Bo Fu received his Bachelor’s degree in Applied Mathematics and both MSc degree and PhD degree in Statistics. He is currently working as a research scientist in the Medical Research Council Biostatistics Unit, University of Cambridge. He is also a fellow of the Royal Statistical Society (RSS), a senior member in Wolfson College and an associate member in St Edmund’s College of University of Cambridge. His research work involves longitudinal data, panel model, time series, median regression, survival analysis, medical statistics and epidemiological study of Hepatitis C.

ALL ARE WELCOME !