

広島統計談話会  
Hiroshima Statistics Study Group

第 230 回談話会を下記のように開催致しますので  
御参集下さいますよう御案内申し上げます。

You are cordially invited to the 230<sup>th</sup> meeting as scheduled below.

日 時 : 2006 年 9 月 29 日 (金) 15:00-  
Date : September 29, 2006 (Fri) 15:00-

場 所 : 放射線影響研究所 講堂  
Place: RERF Auditorium

演 者 : 古川 恭治 (財団法人 放射線影響研究所統計部研究員)  
Speaker: Kyoji Furukawa, Ph.D., Research Scientist, Department of Statistics,  
Radiation Effects Research Foundation, Hiroshima

演 題 : 「欠測を含む腫瘍登録データからのがん発生率推定」  
Title: “Estimating Cancer Incidence Based on Coarsened Tumor-registry  
Data”

要 約 :

Abstract:

Missing cases due to migration of subjects from the catchment area could be problematic in estimating cancer incidence from survival data based on a regional (population-based) tumor registry. As the residency information of each subject is usually unknown, ignoring the problem of missing cases will lead to underestimates of cancer incidence since those subjects who are not at risk for cancer are counted as if they were. This is the case in cancer incidence studies of Atomic-bomb survivors in Hiroshima and Nagasaki, Japan, for which the Life Span Study (LSS) of the Radiation Effects Research Foundation has been following about 120,000 survivors since 1958. An intuitive approach to this problem is adjusting the estimate by multiplying the observed person-years by the residency probability, but it can be shown that the estimator of this approach is still not consistent and could be misleading in estimating moderate incidence rates. The problem could be more complicated if cases identified only on the basis of death certificates are included. In this study, a full likelihood approach that accounts for the missing data mechanism is proposed, and incidence rates are estimated by the data augmentation algorithm. The use of the new approach is illustrated in estimation of solid cancer incidence for the LSS cohort.