EXTERNAL INFORMATION HELPS TO REDUCE SELECTION BIAS IN HEALTH EXAMINATION SURVEYS

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The decreasing participation rates and selective non-participation peril the representativeness of health examination surveys (HES). In this talk I will review the results from the project "Non-participation in health examination surveys" (NoPaHES, http://www.ehes.info/nopahes/) and provide some recommendations for the design, implementation and analysis of HES. The distinctive feature of the NoPaHES project is the coverage of the register data. The register linking is carried out for both participants and non-participants to obtain data on deaths, hospitalizations, socio-economic status and medical reimbursements. These register data can be used to analyze the characteristics of non-participants, and to reduce selection bias. The use of follow-up data in the estimation of the prevalence of daily smoking and heavy alcohol usage is considered as an example.

References:

- Karvanen J., Tolonen H., Härkänen T., Jousilahti P., Kuulasmaa K. (2016) Selection bias was reduced by recontacting non-participants, Journal of Clinical Epidemiology, 76, 209-217.
- Härkänen T., Karvanen J., Tolonen H., Lehtonen R., Djerf K., Juntunen T., Koskinen S. (2016) Systematic handling of missing data in complex study designs experiences from the Health 2000 and 2011 Surveys. Journal of Applied Statistics, 43:15, 2772-2790.
- Kopra J., Karvanen J., Härkänen T. (2016) Bayesian models for data missing not at random in health examination surveys, arXiv:1610.03687.
- Tolonen H., Aistrich A., Borodulin K. (2014) Increasing health examination survey participation by SMS reminders and flexible examination times. Scandinavian Journal of Public Health, 42(7): 712-717.