

## 大阪医学統計学セミナー 第75回 Osaka Biostatistics Seminar

10月6日(金) 16:00~17:30



場所: 医学系研究科基礎研究棟L階 医学統計学研究室 オンライン開催

参加ご希望の方は、前日までに下記 問い合わせ先にメールにてお申込み ください。

**Causal Inference on Long-Term Effects of Blood Pressure Management Strategies:** The Circulatory Risk in Communities Study (CIRCS)

**Speaker: Toru Shirakawa** (Division of Public Health, Osaka University)

Abstract: We examined the long-term effects of blood pressure management strategies in 13,486 residents who underwent community health checks in the Circulatory Risk in Communities Study (CIRCS). The outcome was all-cause mortality, and subjects were followed up for 30 years. Standard annual health measurements were used as time-dependent variables. Dynamic blood pressure management strategies were defined using these time-dependent variables. Counterfactual survival curves under these strategies were identified through qformula and estimated by the longitudinal targeted minimum loss-based estimation (LTMLE). Machine learning algorithms were used for the nuisance parameter estimation to handle the high-dimensional time-dependent covariates (p=2418), and the cumulative inverse probability of treatment assignment was controlled by taking the visit process into account. I would like to discuss the efficient formulation of the research question based on the properties of estimators in a dynamic setting.

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