



統計科學研究所

INSTITUTE OF
STATISTICAL SCIENCE



統計所學術演講



中研院統計所

學術演講

講 題：Causal Bounds for Outcome-Dependent Sampling
in Observational Studies

講 者：Prof. Erin Gabriel

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時 間：2023年8月14日(星期一)，14:30-15:30

地 點：統計所B1演講廳

Abstract

Outcome-dependent sampling designs are common in many different scientific fields, including epidemiology, ecology, and economics. As with all observational studies, such designs often suffer from unmeasured confounding, which generally precludes the nonparametric identification of causal effects. Nonparametric bounds can provide a way to narrow the range of possible values for a nonidentifiable causal effect without making additional untestable assumptions. The nonparametric bounds literature has almost exclusively focused on settings with random sampling, and the bounds have often been derived with a particular linear programming method. We derive novel bounds for the causal risk difference, often referred to as the average treatment effect, in six settings with outcome-dependent sampling and unmeasured confounding for a binary outcome and exposure. Our derivations of the bounds illustrate two approaches that may be applicable in other settings where the bounding problem cannot be directly stated as a system of linear constraints.

※ 實體與線上視訊同步進行。

※ 茶 會：14：10開始。