FAMILY MEDICINE RESEARCH SEMINARS

Tibor Schuster, PhD

Dr Schuster's main methodological interests are in the development and application of causal inference methods for the design and analysis of cluster randomized controlled trials and observational research studies based on administrative or electronic medical / health record data.

No causality in – No causality out: Utility and limits of machine learning in drug safety research

Machine Learning (ML) methods are gaining increasing popularity in drug safety studies using large observational databases. Applications include the identification of risk factors for critical health outcomes and the classification of patients into risk strata to optimize individual treatment recommendations and surveillance over the course of treatment. Risk-modifying factors can be invariant characteristics of an individual but also time-dependent exposures. A particular threat are unintended drug-drug interactions that are difficult to model using conventional data analysis approaches (e.g. risk regression models) due to the complex time-dynamic nature of multiple drug exposures. In my talk I will show examples on how Machine Learning approaches can be used to help identifying potential risk predictors in complex data settings. I will demonstrate limitations of ML approaches in situations where the temporal order of input information (predictor candidates) is ignored and collider stratification bias will render estimated variable importance and associated effect estimates invalid proxies for their causal counterparts.

Wednesday February 6th, 2019 • 15:00-16:00

Department of Family Medicine

5858, Côte-des-Neiges Rd, 3rd Floor

Join us afterward for our "Buck-a-Beer" Faculty, Staff & Student Mixer Event

From 16:00-18:00

*Beer will be sold 1$ each

There is no parking on site and parking is limited in the area. Taxis and public transport are advised.

Cannot be present in person but would like to attend? Join via webinar here.

**Note: Students from FMED 504 are expected to attend*

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Family Medicine Graduate Students' Society