

Department of Epidemiology, Biostatistics and Occupational Health

EPIDEMIOLOGY

EPIDEMIOLOGY SEMINAR / FALL 2019

THE DEPARTMENT OF EPIDEMIOLOGY, BIOSTATISTICS AND OCCUPATIONAL HEALTH, - SEMINAR SERIES IS A SELF-APPROVED GROUP LEARNING ACTIVITY (SECTION 1) AS DEFINED BY THE MAINTENANCE OF CERTIFICATION PROGRAM OF THE ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF CANADA

LUCIA CATHERINE PETITO, PhD

Assistant Professor, Division of Biostatistics Department of preventive medicine Northwestern University Feinberg Medical School



A Causal Approach to Real-World Data: Emulating Randomized Trials in SEER-Medicare

MONDAY, 11 NOVEMBER 2019 / 4:00 pm – 5:00 pm McIntyre Medical Building

3655 promenade Sir William Osler – Martin Amphitheatre Rm 504

ALL ARE WELCOME

ABSTRACT

Researchers are often interested in evaluating the comparative effectiveness of cancer therapies. Most commonly, these questions are addressed by conducting randomized trials, where the treatment assignment is randomized. However, large randomized trials can be prohibitively expensive or logistically infeasible, so researchers have turned to observational data sources to generate evidence to answer these questions. Unfortunately, naïve analyses of observational data easily lend themselves to misleading and biased results. Here, we will discuss best practices when applying the target trial framework developed by Hernán & Robins (2016) in the SEER-Medicare linked database to emulate randomized trials. As a case study, we will consider the emulation of a trial to evaluate adjuvant fluorouracil-based chemotherapy to treat stage II colorectal cancer.

OBJECTIVES

- To discuss strengths and limitations of using administrative data to conduct epidemiological research;
- 2. To familiarize participants with the "target trial" concept;
- 3. To review assumptions for marginal structural modeling.

BIO

Lucia C. Petito is an assistant professor in the division of biostatistics in the department of preventive medicine at Northwestern University's Feinberg Medical School, where she is an active member of the Biostatistics Collaboration Center. Dr. Petito's research interests include the development and application of statistical tools in epidemiological studies, as well as studying novel techniques to draw causal inferences from longitudinal biomedical data sources. Currently, she works with researchers conducting studies in cardiovascular epidemiology. Before arriving at Northwestern, she completed her doctorate in Biostatistics at the University of California, Berkeley, and a postdoctoral fellowship at the Program on Causal Inference at the Harvard T.H. Chan School of Public Health. Dr. Petito also holds a bachelor of science in mathematics from the University of Rochester and a bachelor of music in violin performance from the Eastman School of Music. She is an avid classical musician in her spare time.