



McGill

Department of  
Epidemiology, Biostatistics  
and Occupational Health

## Biostatistics Seminars Fall 2017

### **Steven J. Skates, PhD**

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## **Mortality analyses in the UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS)**

Tuesday, 3 October 2017 - 3:30 pm – 4:30 pm  
McIntyre Medical Bldg – 3655 Sir William Osler – Meakins Room 521

ALL ARE WELCOME

**Abstract:** UKCTOCS is a randomized screening trial of 202,000 postmenopausal UK women with half the women screened and half not screened. Half the screened women had an annual CA125 test as the primary screen interpreted with the risk of ovarian cancer algorithm (ROCA), a longitudinal method for personalizing screening tests by detecting significant increases above an individual's CA125 baseline. The secondary test for women at elevated risk was transvaginal ultrasound (TVU). The other half of the women screened had annual TVU as a primary screen. Screening began in 2001 and ended 31 December 2011 with follow-up through 31 December 2014. The primary mortality analysis was a proportional hazards test with mortality from invasive ovarian cancer as the endpoint which was not significant ( $p=0.10$ ). There was a preliminary test for proportionality of hazards which was not significant. A pre-specified subgroup analysis of 80% of the cases (excluding the 20% prevalent cases) was significant ( $p = 0.02$ ) following a significant test for non-proportionality ( $p=0.03$ ). This subgroup analysis was prespecified because it was expected that ROCA would be less effective when there are no baseline measurements which is equivalent to a prevalent case. Further follow-up through December 2018 is underway with the primary endpoint updated to account for adoption in 2016 of the WHO 2014 pathological definition of ovarian cancer. We will raise the question of whether the primary statistical analysis should be updated to reflect new statistical insights since the primary analysis was defined in 2001.

**Bio: Steven Skates** received his undergraduate education at the University of Western Australia and his graduate education at the University of Chicago in Statistics. He is an associate professor at Massachusetts General Hospital and Harvard Medical School where he is an early detection investigator. His research is on developing longitudinal algorithms for early detection of ovarian cancer, conducting and analyzing screening trials implementing these algorithms, and discovery and validation of early detection ovarian cancer serum biomarkers.