

## Department of Biostatistics and Medical Informatics Seminar



### Irene Helenowski, PhD

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Stritch School of Medicine, Loyola University Chicago

**Friday, January 24, 2025**

**12:00-1:00 pm**

**Biotech Center Auditorium \*or\* via Zoom Link**

<https://uwmadison.zoom.us/j/99879638765?pwd=wbtqxoucEFllPVCVc9SFbvKB1Av7Xk.1>

**Passcode: 343271**

### **Recent Applications and Validation of Nomograms including an example for a Repeated Measures Cause-Specific Cox Regression Model**

**Abstract:** Nomograms are one tool which allows us to predict absolute risk of an event based on demographic and clinical factors fitted to a logistic regression or time-dependent Cox regression model. This tool can be further extended to longitudinal settings, as a generalized estimating equations (GEE) model or Cox regression model accounting for repeated measures. In this presentation, we give an example of a nomogram applied to liver transplant data associating the Model for End-Stage Liver Disease (MELD) score to time to death on waitlist based on a cause-specific Cox regression model, adapted from Brock et al. (2019) involving repeated measures. We also discuss validation approaches for the nomogram, including the Dxy, U, Q, and g statistics, ROC analysis, and calibration plots. We hope to prove that review and application of these approaches associated with several types of models continue to be of paramount use for clinicians and future implementation of this tool warrants further research.

**Bio:** Dr. Irene Helenowski is a senior biostatistician in the Biostatistics Collaborative Core, which is a part of the Clinical Research Office at Loyola University Chicago. She received her M.S. in Statistics with emphasis in Biostatistics from the University of Wisconsin – Madison and her PhD in Biostatistics from the University of Illinois – Chicago. Prior to her position at Loyola, I have held positions of statistical analyst, biostatistician, and senior biostatistician at the Northwestern University Feinberg School of Medicine Department of Preventive Medicine.



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