headandneck 5000

INHANCE project title: Validation of individualized prognostic calculator for patients with newly diagnosed head and neck cancer

Principle Applicant: Laura Rozek, Jeremy Taylor, Greg Wolf

Co-Applicants: N/A

Project Summary:

We are proposing to develop and then evaluate a prognostic calculator for patients with newly diagnosed head and neck cancer. The calculator will take as input variables: demographics, tumour and treatment characteristics (e.g. such as age, gender, site and stage of disease, etc) and molecular biomarkers if available (e.g. HPV/P16, P53, EGFR, etc), and provide predicted probabilities of outcomes such as metastases, local/regional recurrence and overall survival. The calculator will be based on using the multistate cure model. The development of the calculator will require addressing some complex statistical issues, including missing data, different censoring times for the different endpoint, large numbers of covariates and interactions. We will be developing and building the calculator using data from the University of Michigan. This builds on our previous work on developing the multistate cure model in simpler settings and on evaluating existing head and neck cancer calculators. We will apply the calculator to patients from the INHANCE cohorts and then compare how well the predicted outcomes agree with the actual outcomes experienced by the patients.

Keywords: Head and neck cancer, prognostic calculator, newly diagnosed