

Online prognostic tool for lung cancer developed

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Determining the best way to treat lung cancer – the leading cancer killer for both men and women – is an ongoing challenge to cancer doctors. But researchers at the West Virginia University Mary Babb Randolph Cancer Center have developed an online tool to help doctors develop a treatment plan for their patients.

Current treatment is based on tumor staging, which determines the extent of cancer and whether it has spread to other parts of the body. While staging is a strong predictor of survival, doctors can not rely on it to predict patient outcomes using various methods of treatment. Patients diagnosed with early disease can respond differently to the same treatment and up to 50 percent of those who undergo surgery – the major treatment option – relapse within five years.

Cancer Center researchers led by Lan Guo, Ph.D., have created an online prognostic tool called personalizedrx.org aimed at helping lung cancer doctors accurately estimate patient outcomes and determine the best course of treatment on a patient-by-patient basis.

Their work, “Combining Clinical, Pathological, and [Demographic Factors](#) Refines Prognosis of Lung Cancer: A Population-Based Study,” has been published in the Feb. 25 edition of "PLoS ONE," an international, peer-reviewed, online publication of the *U.S. Public Library of Science*.

“Personalized Rx is a comprehensive prognostic model that investigates

the impact of clinical, pathological and demographic factors on lung cancer survival based on clinical data on thousands of lung cancer patients from the SEER (Surveillance, Epidemiology and End Results) database,” Dr. Guo said. “Those factors include tumor stage, tumor grade, age, race, gender and histology, all of which are strongly associated with lung cancer survival.”

The SEER Program database is a key source for cancer statistics in the United States.

To use personalizedrx.org a doctor simply plugs in the clinical, pathological and demographic factors for a specific patient, which allows the model to draw from its data to calculate an estimated survival rate for that patient and an estimated survival rate based on specific treatment options. The model also estimates the patient’s risk for tumor recurrence.

“This model takes into account factors that are critically important in the clinical decision-making process,” Scot Remick, M.D., director of the Cancer Center and co-author of the research, said. “It is to be used strictly as a supplemental tool by doctors to help them individualize [lung cancer](#) treatment.”

More information: To view the research online see dx.plos.org/10.1371/journal.pone.0017493

Provided by West Virginia University

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