Prediction models for prostate cancer outcomes: what is the state of the art in 2017?

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Abstract

PURPOSE OF REVIEW: Prostate cancer (PCa) remains a significant public health burden, with multiple points for decision-making at all stages of the disease. Given the amount and variety of data that may influence disease management, prediction models have been published to assist clinicians and patients in making decisions about the best next course of action at many disease states. We sought to review the most important studies related to PCa prediction models since 2016 and evaluate their impact upon the evolving field of risk modeling in PCa.

RECENT FINDINGS: There has been a significant amount of work published in the past year concerning risk modeling in PCa at all stages of disease, ranging from screening to predicting survival with metastatic disease. The majority of recent publications focus upon the addition of a new biomarker to prediction models or upon validating previously published prediction models. In particular, MRI has been the topic of a number of more recent studies.

SUMMARY: Prediction modeling in PCa currently compares the area under the receiver operating curve between models with and without the biomarker of interest to predict the outcome of interest in multiple disease states, ranging from diagnosis to prediction of survival with metastatic disease. Future work should provide additional information regarding clinical impact and measures of prediction confidence.

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