

co-ordinated with the Director of the Institute / Research Unit

Institute of Computational Biology, Biostatistics Research Group

PSP-Element:

G-503800-001

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Title of the highlight:

A community-based approach to improve prediction of survival for prostate cancer patients

Keywords:

Prostate cancer, survival model, clinical trial, wisdom of crowds, DREAM Challenge

Central statement of the highlight in one sentence:

Interdisciplinary cooperation led to the discovery that a biomarker that had previously received little attention makes an important contribution to the prognosis for prostate cancer.

Text of the highlight:

The study resulted from the DREAM Challenges initiative, which is run by scientists from various institutions. The competition's objective was to improve efficacy and toxicity predictions for a certain treatment used in prostate cancer patients. This primarily involved establishing new quantitative standards for prognostic modelling in prostate cancer; these standards support the clinical decision-making and ultimately contribute to an understanding of the disease progression. The result: previously known clinical factors were confirmed, and a biomarker, aspartate aminotransferase, that had previously been neglected was discovered to be important for the prognosis. The principle behind this type of teamwork is called "The Wisdom of Crowds". The newly developed model can better assess a patient's risk. Patients will profit from individual adaptation of the treatment.

Publication:

Prediction of overall survival for patients with metastatic castration-resistant prostate cancer: development of a prognostic model through a crowdsourced

challenge with open clinical trial data; Justin Guinney et al.; *Lancet Oncology*.
DOI: 10.1016/S1470-2045(16)30560-5

Taking account of the HMGU mission:

The research project aims to improve efficacy and toxicity predictions for a certain treatment used in prostate cancer patients. The findings may be used in personalized medicine to develop individual therapies.

The internal HMGU co-operation partners with whom the highlight was compiled, if appropriate:

Institute of Health Economics and Health Care Management