

Risk score developed for life expectancy of hospital patients

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Researchers at the MedUni Vienna's University Department of Anaesthetics, General Intensive Care Medicine and Pain Therapy, the University Department of Internal Medicine III and the Centre for Medical Statistics, Information Technology and Intelligent Systems have developed the world's first prognosis scoring system (PANDORA score) for hospital patients and their life expectancy within the next 30 days. This is the first specific undertaking from the "nutritionDay worldwide" project, launched ten years ago by Michael Hiesmayr, Head of the Clinical Department of Cardiothoracic and Vascular Anaesthesia and Intensive Care Medicine, in collaboration with Karin Schindler at the

MedUni Vienna.

The aim of the project is to create a global map detailing the frequency of malnutrition, the nutritional condition of [patients](#) and the care structures in hospitals and care homes that are of relevance to nutrition. 59 countries - from Albania to China, from India to the USA and a total of 32 European countries - are involved in the project. The next global "nutritionDay" is being held on 19 November 2015.

Around two million sets of anonymised data recorded

The Pandora score (Patient And Nutrition-Derived Outcome Risk Assessment) has now been presented in the open-access journal *PloS One*. Data from more than 43,000 patients was gathered from 2,480 medical institutions in 59 countries to develop the score, and the data was validated with a further 13,000 patient surveys. "To date, around two million sets of data have been anonymously captured online in 32 languages", says Michael Hiesmayr, Head of the Clinical Department of Cardiothoracic and Vascular *Anaesthesia* and Intensive Care Medicine at the MedUni Vienna.

To determine the score, patients are asked about simple parameters such as their age, height and weight. They are also asked for a personal estimate of their mobility and eating behaviour - as well as their general condition. Using a weighted points system, a general risk score can be derived which can be used in the hospital to ensure quality, for studies and for the purposes of evaluation - such as whether special attention needs to be paid to special risk groups - "but also to obtain indicators of any possible as-yet-undetected background condition or other problems", says Hiesmayr. "It may even be conceivable in future to develop an online risk calculator which patients can complete themselves if they are able to. The results could in future also be factored into patients' files. The score is currently a tool for describing the severity of a condition

more clearly and allows it to be expressed in numbers."

Nutrition as a key factor in hospital

The data obtained by "nutritionDay" over the years show that weight loss in hospital associated with a condition increases the risk of mortality.

"Most patients arrive in hospital with an existing nutrition problem," says Hiesmayr. "nutritionDay" was launched as a global campaign against malnutrition following a resolution by the Council of Europe and is held every year.

The Council of Europe's resolution (ResAP(2003)3 on food and nutritional care in hospitals) is based on the knowledge that 15 to 40 per cent of all patients admitted to hospitals are under-nourished, that malnutrition is often ignored and can therefore lead to a deterioration in the individual's overall condition. Karin Schindler, co-founder of the project at the MedUni Vienna's Department of Internal Medicine III, says: "On many wards, we have already been able to adapt the routines based on these numbers, furthermore nutritional risks are documented on admission, the amount of food eaten is monitored and the patient's nutritional status and treatment plan are included in the discharge summary."

More information: "The Patient- And Nutrition-Derived Outcome Risk Assessment score (PANDORA): development of a simple predictive risk score for 30-day in-hospital mortality based on demographics, clinical observation, and nutrition." [DOI: 10.1371/journal.pone.0127316](https://doi.org/10.1371/journal.pone.0127316)

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