

**First success story from the EU-funded PerMediK COST Action:** implementation of a big data-based approach to enable effective, early and personalized intervention to prevent chronic kidney disease.

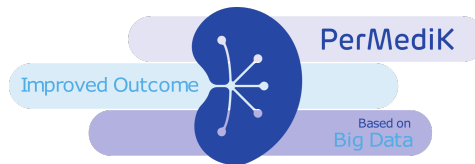
## Maintaining health instead of “repair medicine”

*First German health insurance company reimburses proteome analysis for the early detection of diseases.*



<https://www.bild.de/ratgeber/wissenschaft/ratgeber/um-krankheiten-sehr-frueh-zu-erkennen-erste-kasse-zahlt-luxus-urintest-86879664.bild.html>

The COST Action PerMediK aims at using big data from proteome and other –omics analysis, combined with sophisticated algorithms and artificial intelligence, to cope with the increasing problem of chronic kidney disease (CKD), which affects ~10% of the population.



**CKD** is a “silent killer”, it is not associated with any symptoms early in disease and reduces life expectancy by up to 20 years or even more. There is no cure for established CKD, at best therapeutic intervention can slow down disease progression, the sooner intervention starts, the higher the efficiency.

**A** powerful approach to cope with this situation is the implementation of biomarkers that detect CKD prior to the onset of clinical symptoms, and by ideally personalized intervention prevent onset of clinically relevant disease. This approach has been developed by several of the members of the PerMediK COST action and highly significant results from clinical studies have been published in leading scientific journals. Using proteome data from over 10,000 patients, the scientists and doctors involved have demonstrated the clinical value and validity of a test based on the proteins and peptides present in a simple urine sample that enables detection of CKD even before significant organ damage occurs, and guide personalized, specific therapeutic intervention. For more information, see <https://www.protexam.com/en-gb>

**N**ow these efforts have led to the next major step: the recognition of the value of this approach and therefore the reimbursement of this test.

‘IK Innovationskasse’ is the first German statutory health insurance to pay for molecular early detection tests for chronic cardiovascular and kidney disease and individual carcinomas using proteome analysis.

‘IK Innovationskasse’ board member Ralf Hermes is convinced. "This form of prevention seems to have the potential to solve the cost problem in the healthcare system to a large extent," says Hermes. The ‘IK Innovationskasse’ recently began covering a large part of the costs of this new molecular diagnostic method. With the help of proteome analysis, the risk of many chronic diseases can be effectively reduced because they can be identified at a molecular level for the first time and recognised early before organ damage occurs, thus enabling efficient treatment to be initiated. It is well known that drugs only act on proteins, not on dead cells.

**T**he dilemma so far has been that chronic diseases progress without symptoms and go unrecognised in the first few years before they become noticeable with massive organ damage. They are the real cost drivers in healthcare systems because they are recognised too late and therefore have to be treated inefficiently but at great expense and in a long time. With the ageing population, the increase in chronic diseases and the retirement of significant age groups from the medical service, the problems will soon have a dramatic impact.

**A**pproximately 40 per cent of the German population is chronically ill and therefore requires regular medical treatment. The costs for this amount to more than 120 billion euros per year. This corresponds to a third of the total expenditure of the statutory health insurance funds in Germany of just over 300 billion a year.

Hermes sees it as a logical step to support this necessary paradigm shift, "away from repair medicine", with the use of proteome analysis for early detection to prevent organ damage that can no longer be stopped and is irreparable. "Better prevention through early detection also allows medical treatments and necessary medications to be better tailored to individual patients for the benefit of the health of the insured and to reduce costs more efficiently," Hermes continued. This could not only save the German healthcare system from imminent collapse but improve patient’s quality of life and life expectancy.