



COMMENT ON VISTISEN ET AL.

# A Validated Prediction Model for End-Stage Kidney Disease in Type 1 Diabetes. *Diabetes Care* 2021;44:901–907

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With great interest we read the recent study by Vistisen et al. (1) wherein a prediction model for end-stage kidney disease (ESKD) in patients with type 1 diabetes was derived and validated. The model is intended to inform clinical decision-making by predicting 5-year risk of ESKD using routinely available clinical measurements. The model accounts for all-cause mortality as competing risk and performed very well in discrimination, although it was less robust regarding calibration. Furthermore, the authors provide a user-friendly online calculator for easier implementation in clinical practice.

The use of prediction models is increasing since well-performed models allow the clinician to make individualized predictions and tailor risk management based on a series of easily obtainable clinical values. Especially in the field of cardiovascular risk management, prediction models are incorporated into guidelines (2) and are widely used. However, as the authors also underline, risk prediction models for ESKD are lacking.

ESKD usually develops over many years, and type 1 diabetes patients are in general relatively young. Therefore, a prediction horizon of 5 years is a very short time span for patients with type 1 diabetes.

Lifetime prediction models have been developed for prediction of cardiovascular events (3), e.g., in patients with type 2 diabetes (Diabetes Lifetime-perspective prediction [DIAL] model) (4), but they have yet to be developed in the field of nephrology. These lifetime models also take into account competing risk and can give an estimation of disease-free life expectancy that is easy to interpret for patients and health care providers. Although follow-up of derivation and validation cohorts does not cover entire lifespans of patients, recent validated methodological developments allow for longer predictions that even cover the lifetime of a patient, e.g., using age as timescale (5). These methods further allow estimations of the effect of lifestyle changes and preventive medication (lowering of systolic blood pressure, lowering of HbA<sub>1c</sub>, sodium–glucose cotransporter 2 inhibition medication, ACE inhibition, etc.). Improving risk prediction in type 1 diabetes will enhance individualized prediction and should ideally cover a long time horizon. A lifetime prediction model for ESKD will more accurately illustrate the potential for preventive treatment, thereby improving shared decision-making.

**Duality of Interest.** No potential conflicts of interest relevant to this article were reported.

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