

# Re: Timely Referral to Outpatient Nephrology Care Slows Progression and Reduces Treatment Costs of Chronic Kidney Diseases



**To the Editor:** In a recent issue, Lonnemann *et al.*<sup>1</sup> purport to demonstrate that “timely” referral to nephrology slows progression of early to late chronic kidney disease (CKD) and reduces cost. We find several areas of concern in the conduct of the study. Validation of the use of administrative codes to document CKD progression is lacking. Indeed, as shown in Table 3 in the article, nearly as many persons had a regression of CKD stage from 2009 to 2010 as had a progression of disease. In the “timely referral” group, both exposure to nephrology care and the outcome of interest, CKD progression, were ascertained concurrently, so that there is no way to know whether the outcome occurred before or after the exposure. Beyond rudimentary matching by age and gender, the study does not adjust for several key factors that may influence CKD progression,<sup>2–4</sup> several of which are listed in Table 5 in the article. The major issue, however, is one of ecological fallacy: it is not that exposure to a nephrologist has a particular salutary effect but, rather, that persons who tend to be healthier, and have slowly progressive CKD, have the opportunity to seek nephrology care. In contrast, persons who experience disease progression or require renal replacement therapy as the result of catastrophic illness do not have that opportunity. Higher subsequent health care use and mortality risk would be expected for the latter group. Further work would be needed to determine whether very early nephrology referral should be a policy objective.

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**The Author Replies:** Thank you for your comments and criticism of our article.<sup>1</sup> As you know, we searched a database of German insurance companies for patients with chronic kidney disease (CKD). CKD was identified by the International Classification of Diseases, Tenth Revision (ICD-10) codes that had been assigned by the general practitioner or nephrologist, respectively. Having access only to the database, we had no chance to validate whether or not the classification into the various CKD stages was correct, because estimated glomerular filtration rate values (e.g., calculated by the Chronic Kidney Disease Epidemiology Collaboration [CKD-EPI] formula) were not passed down. However, the doctors always had the choice between a nonspecific code for CKD (N18.9) and specific codes indicating the CKD stages (N18.1–N18.5) according to the Kidney Disease: Improving Global Outcomes (KDIGO) guidelines. In case the specific stages were coded, we trust our colleagues that the classification was correct.

During the transition from 1 year to the next, significantly more patients in the timely referral group (75.1 vs. 63.0%) maintained stage CKD 3 (Figure 5 in our article). Small numbers of patients (6%–10%) in both cohorts had either regression or progression of disease. In contrast to the authors of the letter,<sup>2</sup> we think that these numbers reflect real life in daily nephrology practice. Quantitatively, it is much more important that timely referral to nephrology care



increases the number of CKD 3 patients with stable disease significantly.

We totally disagree with the opinion that the burden of comorbidities might be different in the 2 cohorts and that healthier patients with slowly progressive CKD are more likely to seek ambulatory nephrology care. This opinion is not supported by our data; the opposite is right. The two cohorts were defined only once and followed up for 4 years. Transitions from 1 year to the next are described within the cohorts exclusively. There are no data on transition of patients switching from 1 cohort to the other. As shown in Table 5 in our article, comorbidities were not different in the 2 study groups.

There is no evidence that patients in the timely referral group were healthier. Our data suggest that secondary preventive care offered by the outpatient nephrologists is responsible for the better outcome. Keeping in mind all limitations of a retrospective analysis of a database, the results of our study support the concept of timely initiated nephrology care being a

key factor to reduce progression of CKD, treatment costs, and even mortality.

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