

Reporting eGFR

William M. Bennett

Northwest Renal Clinic, Portland, Oregon

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In 2002, the National Kidney Foundation, in its landmark Kidney Disease Outcomes Quality Initiative, published clinical practice guidelines for chronic kidney disease (CKD) (1). These guidelines proposed a classification system for CKD substantially based on a creatinine-based glomerular filtration rate (GFR) estimating equations. The promulgated equation was derived from a carefully done National Institutes of Health-sponsored study of 1642 chronic renal disease subjects, the Modification of Diet in Renal Disease (2). The Kidney Disease Outcomes Quality Initiative categories of CKD have been widely accepted and disseminated throughout the world. Currently, many laboratories report the estimated GFR (eGFR) for all patients for whom a serum creatinine is ordered.

The controversy in this issue of the CJASN revolves around the potential benefits and risks of defining CKD using the eGFR.

Drs. Melamed, Bauer, and Hostetter argue that creatinine remains the single best simple estimate of kidney function and that its measurement is unlikely to be supplanted in the near future by any other measurement. By using the eGFR to define CKD in patients who are asymptomatic, preventive strategies may be implemented, thereby reducing or avoiding the tremendous burden of CKD. Because we now have therapies that, at the very least, delay the progression of chronic renal disease, Melamed *et al.* further argue that identification of CKD at stage 3 and more severe brings focus to a population that has an elevated risk of end-stage kidney disease, cardiovascular disease, and death (3-5). By identifying CKD as a major risk factor for cardiovascular disease and widely disseminating this information, prevention of premature death may be possible.

Drs. Glasscock and Winearls point out the potential downsides of the use of the eGFR to identify kidney disease through universal laboratory reporting. They raise well-reasoned concerns about identifying populations who will be labeled with chronic renal disease who really have no distinct problems other than their age, gender, and perhaps race. Use of eGFR

may create a population of 'worried' well who may expend resources for clinical evaluations to exclude significant renal disease. Does a 75-yr-old woman with an eGFR of 50 really have CKD that needs evaluation or management? Even the use of the term 'disease' in the CKD classification connotes abnormalities that may be a burden on large numbers of people classified in this way. Potentially, this could affect insurability and employability. The identification of kidney disease by this means will certainly result in increased requests for consultation and referrals to a discipline that is already experiencing some manpower shortages.

Identifying undiagnosed and, thus, untreated CKD is admirable and will undoubtedly boost the numbers of individuals who seek care from which they can potentially benefit. However, this strategy will also counterproductively create a population of people for whom this diagnosis is false. Consideration of the potentially large number of these falsely identified individuals highlights the delicate balance between enhancing the opportunities for diagnosis of occult CKD through eGFR reporting and its countervailing associated costs. Furthermore, by enhancing the testing and labeling of CKD, nephrologists must consider the risk of being seen as soliciting referrals from a population that they would not otherwise encounter. Certainly, there are other stakeholders who may also be seen as beneficiaries from strategies that not only enhance detection of CKD but also falsely identify individuals with low eGFR but no kidney disease. These stakeholders include professional organizations and pharmaceutical companies that have products and services that could be used in this expanded population. As pointed out by these two articles, all of these considerations strongly suggest that much more data are needed before the eGFR can be advocated for screening large populations for real chronic renal disease.

Because of the importance of this issue, CJASN will accept 500- to 1000-word commentaries on this subject, which will be considered for publication in a subsequent issue after appropriate peer review. Commentaries accepted for publication will also be shared with the authors of the current articles for their perspectives.

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Correspondence: Dr. William M. Bennett, Legacy Transplant Services, 1040 NW 22nd Avenue, Suite 480, Portland, OR 97210-3025. Phone: 503-413-7349; Fax: 503-413-6563; E-mail: bennettw@lhs.org

Disclosures

None.

References

1. National Kidney Foundation: Kidney Disease Outcomes Quality Initiative. Clinical practice guidelines for chronic kidney disease: evaluation, classification and stratification. *Am J Kidney Dis* 39 [Suppl 1]: S1–S266, 2002
2. Levey AS, Bosch J, Lewis JB, Greene T, Rogers N, Roth D, for the Modification of Diet in Renal Disease Study Group: A more accurate method to estimate glomerular filtration rate from serum creatinine: a new prediction equation. *Ann Intern Med* 130: 461–470, 1999
3. Keane WF, Eknoyan G: Proteinuria, albuminuria, risk, assessment, detection, elimination (PARADE): a position paper of the National Kidney Foundation. *Am J Kidney Dis* 33: 1004–1010, 1999
4. Schiffrin EL, Lipman ML, Mann JFE: Chronic kidney disease: effects on the cardiovascular system. *Circulation* 116: 85–97, 2007
5. Hallan S, Astor B, Romundstad S, Aasarod K, Kvenild K, Coresh J: Association of kidney function and albuminuria with cardiovascular mortality in older vs. younger individuals: the HUNT II study. *Arch Intern Med* 167: 2490–2496, 2007