

Still Asking “Which Rate Is Right?” Years Later

Tyler B. Woodell¹ and Dena E. Rifkin^{1,2}

Clin J Am Soc Nephrol 13: 1783–1784, 2018. doi: <https://doi.org/10.2215/CJN.12371018>

In 1986, Wennberg (1), the influential founder of the Dartmouth Atlas project on geographic differences in health care, wrote a piece entitled “Which rate is right?” in which he described the great variability in health care delivery that existed at the time. He posited that such variability resulted not just from correct and incorrect medical decisions but also from legitimate differences in opinion about tests’ and treatments’ safety and efficacy. We have made great strides in attempting to standardize what it means to be safe or efficacious, but the distinction between appropriate and inappropriate care remains elusive.

In trying to understand these practice differences and the potential errors of omission or commission that they contain, organized information is an essential ingredient. There is perhaps no greater success story in this regard than the country’s largest integrated health system—the Veterans Affairs (VA) Health System. Responding to accusations of suboptimal care in the 1980s and 1990s, the VA restructured its health care system into 22 geographically organized networks (2). Standardized quality metrics were applied across networks, often characterized by the proportion of a given network receiving evidence-based services. The VA subsequently showed significant improvement in many measurable aspects of care delivery. For example, the rate of pneumococcal vaccination increased from 29% in 1995 to 90% by 2003.

However, even with transparency, uptake of recommended care is far from universal. In 2002, Krein *et al.* (3) measured several quality indicators across 13 VA facilities and found that the proportion of qualifying individuals for whom a lipid profile was measured ranged anywhere from 41% to 84% across facilities. More recently, Pokharel *et al.* (4) examined the use of statins among over 900,000 veterans with diabetes and found that the rate of statin prescription ranged anywhere from 60% to 83% across 130 VA facilities. These findings draw attention to the large number of veterans not receiving evidence-based care and highlight the variability in care of even common chronic medical conditions.

Implicit in these observations is the belief that higher adherence to guideline-based quality measures is better. However, certain aspects of care delivery may not be appropriate for all eligible individuals irrespective of evidence-based practice. For instance, older adults with multimorbidity may have multiple competing guidelines calling for disease-centered quality measures, but they would benefit from a patient-centered

approach that intentionally withholds certain tests or treatments (5). It must follow then that some variability in health care delivery is expected, but the challenge is in distinguishing between “appropriate” and “inappropriate” variability.

In this issue of the *Clinical Journal of the American Society of Nephrology*, Navaneethan *et al.* (6) provide an updated assessment of practice pattern variation that exists in the VA population after implementing quality measures and extend this awareness to individuals with CKD. They examine >281,000 VA patients with both diabetes and CKD across 130 VA health care facilities and measure the proportion of patients at each facility who received a set of evidence-based process measures (*e.g.*, hemoglobin testing) and treatments (*e.g.*, angiotensin-converting enzyme inhibitor [ACEi] or angiotensin receptor blocker [ARB] prescribed)—as defined by the 2008 Department of Veteran Affairs and Defense clinical practice guideline for the management of CKD in primary care—within 6–12 months of their primary care visit. Although this was the first such guideline prepared by the VA for patients with CKD not on dialysis, VA guidelines for patients with diabetes were first developed in 1997 and previously included recommendations on statin therapy and proteinuria assessment. After adjusting for patient-, provider-, and facility-level characteristics, the authors quantify the variability in care that patients with similar characteristics experience between facilities. Statistically significant variations were observed across facilities in all measures examined, although with varying effect sizes. Roughly two thirds of patients were prescribed ACEi or ARB therapy within 12 months of their primary care visit; 85% of patients were prescribed statin therapy in the same timeframe. The assessment of proteinuria was the least commonly performed (median rate of 37%; interquartile range, 22%–47%) and the most variable from one facility to the next, with nearly fivefold differences in the chance of being tested in two similar patients at different facilities. Although these patients were primarily seen in primary care practices, 37% of those with stage 4 CKD were seen by a nephrologist within 12 months. This latter finding underscores the notion that practice pattern variability and arguably, suboptimal performance on CKD quality measures are not unique to generalists but that they are observed even among specialists dedicated to—and trained in—CKD care.

¹Division of Nephrology, Department of Medicine, University of California, San Diego, California; and ²Veterans’ Administration Healthcare System, San Diego, California

Correspondence:
Dr. Dena E. Rifkin, Veterans’ Administration Healthcare System, Mailcode 9111H, 9500 Gilman Drive, La Jolla, CA 92093-9111. Email: drifkin@ucsd.edu

The authors' two conclusions—that implementation of these measures for patients with diabetes and CKD is suboptimal and that there is substantial heterogeneity between facilities—are closely intertwined. Specifically, those measures of CKD care that were least implemented—proteinuria evaluation and a nephrology clinic visit for stage 4 CKD—had the greatest magnitude of variability in care delivered between facilities. Similar relationships between adherence and variability were recently described in Europe; less commonly implemented evidence-based measures, such as aspirin use (mean adherence rate of 29%), exhibited greater variability (range, 5%–43%) across countries than more commonly implemented measures, such as ACEi/ARB therapy (mean adherence rate of 76%; range, 67%–87%) (7). These observations lend credence to the idea that practice pattern variation is closely related to local experiences, culture, and resources. Measures least widely accepted or adopted nationally may be more susceptible to variability, because local practices prevail over standardized guidelines. As measures become increasingly accepted or adopted, however, the boundaries of local practices become blurred, and variability is diminished.

In considering the less than perfect guideline adherence reported, we must ask what the appropriate percentage would be for each of these tests. Should there be an “off ramp” for ordering certain tests? For instance, a patient with diabetes and CKD who is already on maximum-dose anti-proteinuric therapy may not benefit from additional proteinuria measurements. In studies designed similarly to this, how do we identify those patients who are not receiving quality measure medications, such as ACEis, for appropriate reasons (e.g., hyperkalemia)? Central to these questions is the immeasurable nature of shared decision making that occurs between physicians and patients, which is almost certainly colored differently by beliefs, customs, and values from one area to the next.

The authors highlight two limitations of their work that deserve consideration. First, these data do not include measures obtained outside the VA setting, which may be particularly relevant in rural parts of the country where many laboratory tests are obtained locally from non-VA facilities before patients travel to VA facilities. Second, the authors note that some physicians order urine albumin without urine creatinine, which would underestimate the measurement of proteinuria. Adding to this, it would be interesting to learn how many individuals from a given facility had a test ordered but never completed the ordered test. Also, the reduction in median rate ratios with adjustment for patient-level factors and then again for facility-level factors potentially hides significant issues. Is the variability on the basis of race or disease severity more significant than facility-level variation, and is residual confounding at play?

In conclusion, the authors' findings highlight the important work still needed to deliver high-quality care across health care systems. Although certain quality measures are likely practiced with appropriate adherence and variability that reflect patient-centered care, other measures must improve. Clinical leaders should review this information, identify potential deficiencies, and defend those situations in which seemingly inappropriate care is actually appropriate. We can then propose solutions, such as automated opt-out order sets, clinical reminders, or patient-centered integration of competing demands, to improve care delivery in pursuit of the “right rate.”

Acknowledgments

D.E.R. is supported by Veterans Affairs Merit Award I01HX002109 (Health Services Research and Development).

Disclosures

None.

References

1. Wennberg J: Which rate is right? *N Engl J Med* 314: 310–311, 1986
2. Perlin JB, Kolodner RM, Roswell RH: The Veterans Health Administration: Quality, value, accountability, and information as transforming strategies for patient-centered care. *Am J Manag Care* 10: 828–836, 2004
3. Krein SL, Hofer TP, Kerr EA, Hayward RA: Whom should we profile? Examining diabetes care practice variation among primary care providers, provider groups, and health care facilities. *Health Serv Res* 37: 1159–1180, 2002
4. Pokharel Y, Akeroyd JM, Ramsey DJ, Hira RS, Nambi V, Shah T, Woodard LD, Winchester DE, Ballantyne CM, Petersen LA, Virani SS: Statin use and its facility-level variation in patients with diabetes: Insight from the veterans affairs national database. *Clin Cardiol* 39: 185–191, 2016
5. O'Hare AM, Rodriguez RA, Bowling CB: Caring for patients with kidney disease: Shifting the paradigm from evidence-based medicine to patient-centered care. *Nephrol Dial Transplant* 31: 368–375, 2016
6. Navaneethan SD, Akeroyd JM, Ramsey D, Ahmed ST, Mishra SR, Petersen LA, Muntner P, Ballantyne C, Windelmayer WC, Ramanathan V, Virani SS: Facility-level variations in kidney disease care among veterans with diabetes and chronic kidney disease. *Clin J Am Soc Nephrol* 13: 1842–1850, 2018
7. Eder S, Leierer J, Kerschbaum J, Rosivall L, Wiecek A, de Zeeuw D, Mark PB, Heinze G, Rossing P, Heerspink HL, Mayer G: Guidelines and clinical practice at the primary level of healthcare in patients with type 2 diabetes mellitus with and without kidney disease in five European countries [published online ahead of print September 21, 2018]. *Diab Vasc Dis Res* doi:10.1177/1479164118795559

Published online ahead of print. Publication date available at www.cjasn.org.

See related article, “Facility-Level Variations in Kidney Disease Care among Veterans with Diabetes and CKD,” on pages 1842–1850.