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A Timely Change in CKD Delivery: Promoting Patient Education

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It is estimated that there are more than 23 million individuals with chronic kidney disease (CKD), corresponding to approximately 15% of the US population.[1] As the prevalence of CKD continues to increase in the United States, greater efforts are needed to reduce the risk of complications and attenuate progression to kidney failure. In this issue of the *American Journal of Kidney Diseases*, 2 reports address important issues relevant to the education of patients with CKD and have the potential to positively influence the clinical care of patients with CKD and their disease trajectory.

Young et al[2] describe the new Medicare education benefit for patients with stage 4 CKD and its intended goal of attenuating the progression of CKD. According to the Medicare Improvement for Patients and Providers Act (MIPPA) of 2008 (Public Law 110-275),[3] Medicare beneficiaries with stage 4 CKD may receive 6 educational sessions in individual and/or group formats that provide information about the management of comorbid conditions, preventing complications, and renal replacement therapy options. The impetus for this timely policy is the finding that health education for patients with CKD may lead to improved health outcomes,[4] predialysis vascular access placement for dialysis,[4-6] and extend time to dialysis therapy.[4] MIPPA focuses on patients with stage 4 CKD, the population at greatest risk of progressing to kidney failure. Appropriately so, this policy does not delineate the precise content or manner of delivering educational information to patients. Rather, such specifics are left up to evidence-based educational approaches and cost-benefit analyses, among other considerations, many of which have yet to be determined.

Toward this end, Wright et al[7] recognized the need to develop a CKD-specific knowledge survey. Using sound methods, these investigators developed and validated a survey designed to assess knowledge in patients with CKD. Patients need to know basic information about their kidney disease to understand their health care providers' explanations and directives and appropriately undertake self-care practices. Ensuring that patients understand their self-care requirements for CKD can in turn improve health outcomes. However, although the survey developed by Wright et al[7] may not be a practical tool to use in the clinic setting

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because it takes about 25 minutes to complete, it may be valuable for educational program development and evaluation. As the investigators acknowledged, because the survey was developed and validated in a predominately white and educated population, it may not be valid in a more racially, ethnically, and socioeconomically diverse and less educated population.

Several items on the survey also may need further refinement. For example, one question asks, “What does GFR stand for?” Glomerular filtration rate is a complex concept that may be difficult to understand. It would be more valuable to assess a patient's understanding of the concept of level of kidney function and its implications for their overall health. Moreover, testing disease knowledge and understanding in an individual with limited health literacy is particularly challenging and therefore one can foresee the need to develop a knowledge survey tailored for this segment of the CKD population, as has been done in other chronic diseases, such as diabetes.[8]

Finally, the survey was designed to assess knowledge in patients with CKD stages 1-5 who are not yet receiving renal replacement therapy. Although there is substantial value in addressing the entire spectrum of CKD, there also is a need to develop CKD stage-specific knowledge surveys. As Young et al[2] discuss, educational needs differ by severity of CKD. It is common for patients to be unfamiliar with or confused by terminology that clinicians commonly use, as Wright et al[7] found with the term “chronic.” Similarly, prior research found that kidney transplant recipients were unfamiliar with many kidney disease– related terms, including “nephrologist.”[9] For CKD stage 4, it would be important to evaluate in greater depth patients’ understanding of renal replacement options, disordered mineral-bone metabolism, anemia, and diet. Because of the broad range and complexity of these topics, it would useful to have an accessible database of validated questions that can be drawn upon to assess specific domains of CKD knowledge and be used to tailor educational programs.

A notable feature of MIPPA is that the education provided should be tailored to the individual needs of the patient.[3] The policy does not delineate how education should be tailored to the individual's needs. However, such open terms provide flexibility and enable novel approaches to education. One could envision, for example, educational programs that are tailored to the health literacy levels of patients and are culturally competent. As the articles of both Young et al[2] and Wright et al[7] make clear, information provided through education must be accessible to patients of all health literacy levels. This point is critical given that 20% of the CKD stage 4 study participants surveyed by Wright et al[7] had limited health literacy (less than a ninth grade reading level) and patients’ health literacy levels were associated independently with their knowledge scores. This finding is particularly important for establishing a baseline health literacy level and knowledge level of patients with CKD, especially those with CKD stage 4 who will be eligible for the Medicare education intervention.

Because 1 in 5 patients is unlikely to comprehend information about CKD, greater efforts must be taken to ensure that education about CKD is delivered in ways accessible to patients with low literacy levels. For example, educational materials, handouts, and videos must be developed at a fifth- to eighth-grade reading level, as national guidelines recommend.[10-12]

Other educational materials that also should be delivered to aid in patient education and empowerment include question prompt sheets, which entail a list of commonly asked questions that patients may bring with them to clinical encounters to foster communication. Question prompt sheets have been shown to educate,[13,14] help patients obtain information,[13-15] increase the number of questions asked,[16] and de-crease[16] or have no effect on consultation time.[17] They also are well accepted[13,18] and perceived as more helpful than a general information sheet.[17,18]

Young et al[2] advocate for a group visit approach to CKD education, contending that a group visit approach is an optimal mode of education delivery because it has been empirically shown to be effective in health behavior change.[19] Additionally, they note that group visits contain costs better than individual educational approaches. However, 2 critical dimensions need to be incorporated into their conceptual framework. The first is an assessment of patients' comprehension or confirmation of understanding. The "teach-to-goal" method, also known as "teach back," has become a standard approach for assessing patients' understanding of what clinicians have told them. In this method, clinicians ask patients to explain what they have just heard.[20] Referring back to Young et al's[2] framework, assessments such as teach back should occur throughout the group visit at pivotal moments when ensuring patient comprehension is essential before proceeding with further education.

The second feature that must be addressed is that educational interventions should be guided by well-validated theories of health education. Of particular relevance, given the age of the CKD stage 4 population, is adult learning theory.[21] Adult learning theory posits that adult learners perform adult roles and have developed a self-concept of being responsible for one's own life.[21] This corresponds nicely with the presumption of group visits that "patients are active participants in health management, not dependent recipients of care."[2] As Wright et al[7] noted, some patients with CKD experience uncertainty, fear, and distrust, which may undermine their receptivity to learning about their CKD. Education guided by adult learning theory can help address these psychological dispositions. Given that social interaction plays a fundamental role in learning,[22] group instruction can be made more efficient when learners engage in activities within a supportive environment.

The Medicare CKD education benefit is especially timely because it may help reduce ethnic/racial disparities in referral to dialysis and access to transplant. As is well known, ethnic minority groups receive disproportionately fewer referrals for pre-emptive transplant[23,24] and kidney transplant.[25,26]Additionally, inadequate health literacy is associated with a lower hazard of referral for transplant evaluation.[27] The underlying mechanisms for disparities have been attributed to provider,[28] patient,[29] and other factors.[30] Increasing patients' understanding of the impact of CKD on their health may motivate patients to adhere to referrals to nephrologists or vascular access placement. Similarly, increasing patients' awareness of transplant as a treatment option may increase their interest in and efforts to pursue transplant. Equally important, the Medicare CKD education benefit may reinforce for primary care providers and nephrologists the importance of timely referral, which may improve referral patterns. By standardizing the provision and content of education to Medicare beneficiaries with stage 4 CKD, this education benefit is likely to help level the playing field.

Much remains to be determined about how to effectively embed and implement educational sessions into CKD clinical care practice. Future research should develop guidelines for identifying specific educational content areas. Research also is needed to develop culturally competent low-literate educational content and delivery approaches for effectively implementing MIPPA into clinical practice. In addition, future research should evaluate the impact of educational programs in earlier stages of CKD to address whether Medicare educational benefits should be extended to these patients. Research also will be needed to assess the impact of the educational benefit on the primary outcome of interest, progression to end-stage renal disease, as well as on other important outcomes, including timely referral to a nephrologist, timely placement of an arteriovenous fistula, pre-emptive transplant, access to transplant, and disparities in each of these processes. A “teach-the-teacher” program also may be worth developing to provide assistance to clinicians in implementing the MIPPA policy. Ethically, if the MIPPA-mandated educational benefits are proved effective in Medicare beneficiaries, the same benefit should be extended to non-Medicare beneficiaries.

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