Value-Based Care in Nephrology: The Kidney Care Choices Model and Other Reforms

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Abstract

The Advancing American Kidney Health (AAKH) initiative has reinvigorated the focus on improving the care of patients with advanced CKD. Multiple interventions have been planned, focusing on education campaigns for both clinicians and patients, delaying the progression of kidney disease and improving utilization of home dialysis modalities and kidney transplantation. Value-based care models for patients with advanced kidney disease are being rolled out, with the ESKD treatment choices model starting in January 2021, and the Kidney Care Choices model planned to start in January 2022. There is increasing emphasis on the role of the nephrologist as the “captain of the ship,” leading efforts in care coordination as physician leaders. The transplant reforms have focused on changes to organ procurement organizations aiming to increase availability of organs, and transplants performed, both deceased and living donor, and removing financial disincentives from live organ donation. The American Society of Nephrology (ASN) and the National Kidney Foundation (NKF) are partnering with the Department of Health and Human Services to develop educational material for clinicians and patients. In this review, we discuss these reforms, potential challenges that have arisen, and potential solutions, with emphasis on the Kidney Care Choices model.

Introduction

The care of patients with advanced kidney disease in the United States remains siloed, with multiple incentives resulting in greater focus on care delivery to the patient population who are highly vulnerable and on dialysis than to other CKD populations (1,2). In contrast to the highly structured processes in place for dialysis care, there are few organized, well-funded programs that target preventing or slowing progression of kidney disease among individuals with CKD, promote a smooth transition to kidney replacement therapy if necessary and desired by the patient, and encourage kidney transplantation and home dialysis. The Advancing American Kidney Health initiative, released by the Department of Health and Human Services (HHS) in July 2019, outlined three major policy goals: (1) a 25% decrease in kidney failure incidence by 2030; (2) a marked increase (to 80%) in the number of new patients with ESKD treated with either home dialysis or receiving a transplant by the end of 2025; and (3) doubling of the available kidneys for transplant by 2030 (3) (Table 1).

To address these major policy goals, HHS has taken a multipronged approach: increasing kidney transplant with organ procurement organization (OPO) and living donor reimbursement reforms; informing the public with enhanced education and outreach programs to patients and to clinicians; increasing home dialysis and transplant with the ESKD Treatment Choices (ETC) model that targets dialysis facilities and clinicians; and addressing siloes, while empowering nephrology clinicians to slow kidney disease progression and achieve optimal kidney replacement starts with the voluntary Kidney Care Choices (KCC) models (Figure 1). Each of these programs has exciting potential benefits, but also risks, and a brief discussion of each aspect of this multipronged approach forms the remainder of this review, with a focus on the KCC models.

Kidney Transplant Reforms

Centers for Medicare and Medicaid Services (CMS) introduced changes to the OPOs, including annual reviews of the OPOs, publicly available rankings, and changes in how the donation rate and transplantation rates are measured, with overarching goals of increasing both organ availability and actual transplants (4,5). There are 57 OPOs in the United States, and performance on these rates relative to other OPOs will determine whether an OPO is able to keep its contract; on the basis of the current rule, it is almost certain that multiple OPOs will lose their contracts, with the remaining OPOs expanding to cover broader swaths of the country. Given the establishment of this competitive environment, the survival of any individual OPO requires maximizing these rates, providing a tremendous incentive for these organizations to increase transplantation. The HHS, through the Health Resources and Services Administration, also took steps to

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increase donation from living donors, expanding the qualified reimbursable expenses for live donors to include lost wages, child care, and elder-care expenses, in an effort to reduce financial disincentives to living organ donation (6).

**Education**

As part of a public awareness executive outlined in the executive order for Advancing American Kidney Health, the National Kidney Foundation (NKF) and American Society of Nephrology (ASN) have partnered with HHS to develop education campaigns for people with kidney disease and clinicians, respectively, to help transform kidney health. Campaigns such as the “Are you the 33%?” from the NKF and “We’re United 4 Kidney Health” from the ASN have been launched, and others are being developed (7,8).

**The ESKD Treatment Choices Model**

The ETC, a mandatory participation model that includes dialysis facilities and managing clinicians in randomly selected hospital referral regions across the nation, provides strong financial incentives for home dialysis and kidney transplantation and started in January 2021. For the approximately 30% of dialysis facilities and nephrology clinicians randomized to the model, there are substantial financial implications on the basis of the home dialysis rate, defined by the proportion of patients on dialysis who are treated at home or engage in self-care dialysis within a dialysis facility, and the transplant rate, which incorporates both transplant waitlisting and living donor transplantation for patients on dialysis aged <75 years. For pre-emptive transplants, managing clinicians but not dialysis facilities can receive credit. To help build home dialysis programs, the early years of the model include a home dialysis payment adjustment bonus of 1%–3% of the Prospective Payment System claim for facilities and of the monthly capitated payment (MCP) for managing physicians that phases out in 2023. Financially, the model is asymmetric negative, such that maximum risk exceeds maximum reward, with <8% bonus and 10% penalty on Prospective Payment System claims for facilities, and 8% bonus and 9% penalty on clinician MCP claims; accordingly, the CMS anticipates direct cost savings as a result of the ETC model.
The Kidney Care Choices Model

Although the programs and reforms discussed above address many of the barriers to increasing transplant and home dialysis, they do not substantially address the siloes that exist in kidney care. The KCC model is a voluntary program intended to reinforce the leadership role of nephrology clinicians and incentivize patient-centered care to promote transplant, optimal dialysis starts, and efforts to slow progression of CKD. The KCC model payment changes, quality measures, and incentives will begin in January 2022. Viewed in conjunction with the reforms discussed above, clinicians and organizations in nephrology are challenged by a rapidly changing landscape of payment policy and incentives in the care of people with advanced CKD, including those receiving dialysis or a kidney transplant (10).

The KCC, and in particular, the Kidney Care First (KCF) option within KCC discussed below, brings the nephrologist to the center of the care continuum of patients with advanced CKD. The goal of the KCC model is to align financial incentives to promote educating individuals with advanced CKD in a timely manner, empowering them to prevent progression of kidney disease, and, if kidney failure occurs, optimizing transitions into the best kidney failure treatment modality for that individual, including nondialysis comprehensive medical care.

As an Advanced Alternative Payment Model, with quality metrics that include measures of depression, patient activation, optimal dialysis initiation, and total cost of care, and bonuses for successful kidney transplants, the KCC model hopes to expand on some of the successes from the prior value-based care model in nephrology, the ESKD Seamless Care Organization (ESCO). Major criticisms of the ESCO model were the inclusion of only dialysis-dependent individuals and a de facto disincentive for kidney transplantation as transplant removed the healthiest and most treatment-adherent patients from the shared-savings ESCO.

The KCC focuses not only on patients treated with dialysis, but also on patients with advanced CKD not receiving dialysis (Figure 2). The financial structure of the KCC aims to realign incentives to maximize nondialysis kidney care, including kidney transplantation, recognizing that most patients with advanced CKD want to avoid dialysis and that delaying progression to kidney failure and increasing transplantation may be cost saving over the longer term. The KCC model includes four different options, three of which are designated as Comprehensive Kidney Care Contracting (CKCC) options with varying degrees of financial risk, whereas the fourth option, KCF, specifically targets nephrology clinicians, excluding dialysis providers as formal participants.

The CKCC models must include nephrology practices and transplant providers and, although not mandated, will also require extensive involvement of a dialysis organization as a partner to be successful. Both models incorporate capitated payments, increasing the MCP to clinicians for home dialysis to match the four or more visits per month threshold for patients who are in-center and adding a new quarterly capitated payment (QCP) for beneficiaries with CKD stage 4–5 that is equivalent to the prior 2–3 visit monthly MCP for patients on in-center hemodialysis. Where these models differ is in how these capitated payments are modified: the CKCCs use a shared savings-loss mechanism, similar to that used in the ESCO model and by other advanced accountable care organizations, whereas the KCF model incorporates performance-based
adjustment to the CKD QCP and the adjusted MCP on the basis of predetermined quality and utilization measures.

**Beneficiary Alignment, Eligibility Requirements, and Associated Challenges**

Patients aged $\geq 18$ years, who reside in the United States, and are enrolled in Medicare A or B, with nondialysis CKD stage 4–5, or receiving maintenance dialysis are eligible for inclusion in the model. Of note, individuals enrolled in a Medicare Advantage plan, an increasingly common option for individuals receiving dialysis, are not eligible for the KCC model. The beneficiaries are aligned to a KCC on the basis of Medicare claims and Medicare administrative data. Prior recipients of a kidney transplant who have CKD stage 4–5D can be aligned to participating KCC practices if they are more than a year post transplantation. Recipients of a kidney transplant who are included in a KCC practice at the time of transplant do not remain in the model but inform the kidney transplant bonus, discussed below. Critically, if a beneficiary is already in another payment model, such as a next-generation accountable care organization where attribution is on the basis of the primary care provider, they will not be eligible for attribution to a KCC.

To participate in KCC, a CKCC practice must have 750 Medicare fee-for-service beneficiaries with nondialysis CKD stage 4–5 and 350 beneficiaries receiving dialysis, whereas a KCF group requires 350 and 200 beneficiaries, respectively. For the CKCC options, participants form a kidney contracting entity that must include at least one nephrologist or nephrology group, and at least one transplant provider. Dialysis providers will be key partners within the CKCC options; of note, all dialysis facilities in a single Kidney Care Entity must be owned by the same company to avoid anticompetitive practices. Although minimum beneficiary counts are mandated to help determine reliability of the quality and utilization measures, difficulty achieving these beneficiary thresholds has posed a major challenge nationwide for many nephrology practices, particularly small practices, who were an early target for KCF participation. To increase participation, CMS allows practices to “aggregate” to meet the beneficiary counts, such that quality and utilization measures will be viewed as a single value for these aggregated practices, whereas payments will remain separate for each member practice. The Center for Medicare and Medication Innovation (CMMI) provides the option for practices to suggest aggregation partners or, potentially, will assign aggregation partners for groups that may not have sufficient Medicare beneficiaries to meet these thresholds.

**Quality Assessment**

Like all alternative payment models, the goal is to improve care while maintaining or reducing costs. To do this requires a robust quality performance evaluation system. A limited number of metrics will be present for the first performance year in the KCC models, including Depression Remission and the patient activation measure. This requires a robust quality performance evaluation system, with performance on both the PAM metric and the Depression Remission metric must exceed specific thresholds, defined as $\geq 3$ point positive change on the PAM and intervention reporting for 100% of patients with a Patient Health Questionnaire-9 (PHQ-9) score greater than nine. Failure to cross this Quality Gateway results in an
Depression Remission is measured among patients with a diagnosis of major depression, on the basis of a PHQ-9 score of greater than nine, and progression toward remission is defined as a ≥50% decrease in the PHQ-9 score within 12 months from the index visit. During the initial year of the model, the Depression Remission measure is reporting only, whereas subsequent years require an improvement in the PHQ-9 score. Although there are conflicting data on the benefits of screening for depression in the general population, depression is common in the advanced CKD population and appears associated with mortality and hospitalization in individuals with advanced CKD (11–14). The KCC could provide an opportunity to test whether depression is modifiable on a dialysis population level, although many practices will likely face logistic challenges in establishing a good workflow, which will need to incorporate an initial assessment of PHQ-9 scores with identification of patients who deserve attention, easy and timely availability of mental health services, ability to remeasure the PHQ-9 in a timely fashion, and an easy transmission of PHQ-9 score information to CMMI.

PAM, the other Quality Gateway measure in KCC, assesses an individual patient’s self-reported knowledge, skill, and confidence in managing their own health care condition. Greater patient activation is associated with improved quality of care in patients with chronic illnesses, such as diabetes mellitus and HIV, although similar results have not been demonstrated in the CKD population (15). The National Quality Forum endorsed the PAM to assess patient activation in chronic illnesses, including advanced CKD. There are substantial concerns with the use of PAM, including lack of proven benefit in the advanced CKD population, a short time to evaluate change in patient activation with mandated twice-yearly assessment, costs associated with administering PAM, and no consideration for adjusting payments on the basis of different demographic factors, such as socioeconomic status and education. Although it is exciting to consider a dedicated effort at educating and empowering patients with kidney disease with the nephrologist at the helm, further data and additional experience with the PAM in this population would be reassuring, given the financial implications of poor performance on the PAM measure.

The utilization measures for KCC include Optimal ESKD Starts and Total Cost of Care (Figure 2). The Optimal ESKD Starts measure rewards initiating kidney-replacement therapy with a pre-emptive transplant, an arteriovenous (AV) fistula, or a peritoneal dialysis catheter. AV grafts occupy a middle ground, with only 10% of patients on incident hemodialysis able to initiate with a graft before resulting in increased potential for a negative score on this metric. The devaluation of AV grafts may be a particular limitation of this measure, because grafts may be an equivalent option to AV fistulas among older patients on dialysis, who comprise most of the Medicare population at the time of dialysis initiation (16). As with Quality Measures, the absence of adjustment for Utilization Measures on the basis of practice size, location, socioeconomic, and educational status of beneficiaries may lead to inequity, and a methodology to address these concerns would be the best next step, ideally before program implementation.

Payment Policies

The payment changes proposed under the KCC are outlined in Figure 2. Critically, with the exception of the CKCC Graduated Option, the options within the KCC qualify as an Advanced Alternative Payment Model for clinician participants, meaning clinicians in these models do not need to participate in the Merit-based Incentive Payment System, and participating clinicians will receive the maximum annual 5% lump-sum bonus on the previous year’s Medicare Part B payments, not just payments related to the care of KCC participants.

All four KCC options include for the Transplant Bonus, the capitated fees for CKD 4/5 and dialysis, and the Home Dialysis True-Up, defined below. The CKCC has three options of varying level of cost sharing and shared savings/losses, whereas the KCF has a robust model of performance-based adjustments to payments. As of a KCC model update in July 2021, the capitated payment for nondialysis CKD stage 4 and 5 patients no longer will subsume the “facility fees” that are paid to “hospital-based” clinics, reducing revenue loss for hospitals with hospital-based nephrology practices.

Although initially proposed that the MCP, regardless of the number of encounters per month, would pay at the 2–3 visit rate for in-center hemodialysis-dependent beneficiaries, the final payment policy maintains the varied MCP for 1, 2–3, or ≥4 in-center hemodialysis encounters. In contrast, within the model, a “Home Dialysis True-Up” payment raises the MCP for home dialysis to equal the MCP for four or more visits for in-center hemodialysis, which is a welcome change. The Transplant Bonus is a novel innovation in the KCC, disbursing <$US15,000 dollars for every aligned beneficiary who undergoes a kidney transplant. This bonus is paid in a stepwise fashion over 3 years, as long as the beneficiary maintains allograft function, with US$2500 after the first year of the graft, an additional US$5000 after the second year, and an additional US$7500 after the third year. The Transplant Bonus is not assigned to the cost of care for any of the four model options. Of note, the Transplant Bonus is the strength of this program, and it may be the driving factor in the financial success, or lack thereof, for participating nephrology practices.

Although many of these changes are encouraging, there is concern among nephrology practices about payment methodology. The CMS plans to withhold 30% of the CKD capitated payments, to be reconciled at the end of the financial year, which can be a major barrier for cash flow for smaller nephrology practices. Also, the Transplant Bonus payments do not start until the middle of the second performance year, whereas the costs of the program to the practice start on day 1, again leading to a financial burden. Critically, transplant rates vary widely across the nation, and this variability may be exacerbated in the next several years due to changes in geographic allocation of...
deceased-donor kidneys, potentially resulting in inequity in the allocation of the transplant bonus. Lastly, crossing the gateway threshold for quality metrics, particularly the PAM, may be extremely challenging and expensive to operationalize, resulting in a high risk for practices of negative performance-based adjustments.

Achieving Model Goals

The KCC aims to be a patient-centered program, promoting patient activation and mental health, and includes multiple benefit enhancements (Figure 2), and a focus on slowing progression of CKD and optimal transitions to kidney failure treatment modalities should kidney failure occur. The benefits enhancements target improved education, easy access, and coordinated care to reduce admissions and readmissions and decrease the cost of care. One concern, specifically in regard to kidney disease education, has been that the cost sharing does not change for the beneficiaries under KCC; a waiver of this copay could enhance beneficiary education and is worth further evaluation.

KCC is also designed as a nephrology clinician-centered program, resourcing nephrology clinicians to enhance advanced CKD care and achieve patient-centered goals. In contrast to the ESCO model, none of the KCC models require participation from the dialysis providers, although strong partnerships will enhance success in these models, particularly within the CKCC model, where a dialysis provider will likely be a partner and share risk. Importantly, within the KCC models, CMMI has emphasized the need for a central decision-making role for the nephrologist in improving patient-reported outcomes and guiding silo-spanning care. Many of these new endeavors will require time and effort, and the use of allied health professionals, as has been proven to work in the United Kingdom (15). The KCC model has upfront administrative and clinical costs, such as support from a coordinator, data analytics, quality metric data collection, psychology support, and medical director time, which has caused reluctance to participate in this model on a more widespread basis. The CKD-QCP, the Transplant Bonus, and the performance-based adjustment (or shared savings for the Kidney Care Entity) are all downstream dividends that can cover these upfront costs, and should help improve kidney care, if planned well.

The key concepts within all of these changes in kidney care, including the KCC model, represent welcome changes that will hopefully improve outcomes for patients with advanced kidney disease: the nephrologist assuming a central role in a patient-centered collaborative care model where self-management of disease complications is promoted among increasingly empowered patients. The challenges nephrology practices face while considering participation in KCC, and if assigned to the ETC model are substantial, and these challenges will need to be addressed to promote high participation in the KCC model by nephrology practices and success in the ETC, with a resultant missed opportunity to improve the care of people with advanced CKD.

Particularly with the voluntary KCC model, CMMI has engaged in constant and open communication with participants, and there has been ongoing high interest in this model from nephrology practices. The delayed implementation of the KCC models in the setting of the turmoil associated with the coronavirus disease 2019 public health emergency provides additional time to identify and correct ongoing challenges (Figure 3). In the short term, the beneficiary counts for KCC need to be reconsidered to allow nephrology practices of all sizes to participate. The costs of participation in the program should carefully evaluate the need for resources, such as hiring a care coordinator, allocation of physician leader’s time, survey and instrument administration costs, data analytics and consultants, and collaboration with a team of mental health professionals. Eliminating the copay

Figure 3. | Kidney Care Choices: Lessons learned before model implementation.
for Kidney Disease Education and home health visits would help remove barriers to collaborative and patient-centered care. CMMI also could consider adjustment of the performance-based adjustment on the basis of disease severity and socioeconomic status of patients.

As nephrologists, we have an immediate opportunity to partner with the CMS in improving the care of patients with advanced kidney disease. We need to advocate with a unified voice to optimize these models for success, working iteratively to offer potential solutions as issues arise. Let’s sail this ship right.

Disclosures

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