

August 2024



Kidney Care Choices (KCC) Model

First Annual Evaluation Report,
Performance Year 2022—Executive Summary



PREPARED FOR

Centers for Medicare & Medicaid Services
7500 Security Boulevard
Baltimore, MD 21244

Contract Number: 75FCMC19D0096
Task Order Number: 75FCMC22F0001

PREPARED BY

The Lewin Group, Inc.
12018 Sunrise Valley Dr
Reston, VA 20191

Kidney Care Choices (KCC) Model: First Annual Evaluation Report, Performance Year 2022—Executive Summary

AUTHORS

Brighita Negrusa, Jennifer Wiens, Darin Ullman, Claudia Dahlerus,¹ Richard Hirth,¹ Annalise Maillet, Daniel Strubler, Rachel Pinson, Maxwell Mindock, Kelsey Bacon, Alexander Kappes, Alexander Johann, Betsy Vomacka, Mary Beth Schaefer, Jonathan Segal,¹ Vahakn Shahinian,¹ Yi Li,¹ Tempie Shearon,¹ Valarie Ashby,¹ Tammie Nahra,¹ Joseph Gunden,¹ Mia Wang,¹ Ashley Garcia,¹ Alexander Yaldo¹

ACKNOWLEDGMENTS

The evaluation team would also like to recognize contributions from additional team members:

Ariana Ackerman, Daniel Gregory, Savannah Lantz, Brian Mercer, Sararat Tosakoon, John Ayanian,¹ Sandra Callard,¹ Yating Sun¹

FEDERAL PROJECT OFFICER

Sarah Lewis, PhD, MSPH
Research and Rapid Cycle Evaluation Group (RREG),
Center for Medicare and Medicaid Innovation (CMMI),
Centers for Medicare & Medicaid Services (CMS)

¹ *University of Michigan Kidney Epidemiology and Cost Center*

DISCLAIMER

The statements contained in this report are solely those of the authors and do not necessarily reflect the views or policies of the Centers for Medicare & Medicaid Services. The Lewin Group assumes responsibility for the accuracy and completeness of the information contained in this report.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
ES.1. Model Overview	2
ES.2. Summary of Findings	3
ES.3. Findings by Research Question.....	5
<i>ES.3.1. Who Participates in the KCC Model?</i>	5
<i>ES.3.2. What Were the Impacts of the KCC Model?</i>	6
<i>ES.3.3. Did the KCC Model Affect Patient Experience of Care?</i>	8
<i>ES.3.4. How Did Participants Implement the KCC Model?</i>	9
<i>ES.3.5. Did the KCC Model Have Unintended Consequences?</i>	9
ES.4. Discussion	10

Executive Summary

REPORT HIGHLIGHTS

MODEL OVERVIEW

Kidney Care Choices (KCC) is a voluntary model that provides incentives to improve care management for Medicare fee-for-service patients with chronic kidney disease Stage 4 or 5 and end-stage renal disease (ESRD). The model is designed to delay the onset of dialysis and improve dialysis starts, increase home dialysis, and incentivize kidney transplantation for patients while reducing Medicare expenditures and preserving or enhancing quality of care.

Participants engage in one of two model options:

Kidney Care First (KCF)

Available to nephrology practices and their nephrologists.

Comprehensive Kidney Care Contracting (CKCC)

Available to nephrology practices that team with a transplant provider and optional partners such as dialysis facilities to form Kidney Contracting Entities (KCEs).

PARTICIPANTS



Participants in Performance Year 2022 **spanned 33 states and the District of Columbia.**

The **Midwest and West were underrepresented** in the model.



30 practices in KCF
55 KCEs in CKCC

291 nephrology professionals in KCF
2,565 nephrology professionals in CKCC

133 transplant providers in CKCC
2,217 dialysis facilities in CKCC

KEY FINDINGS IN THE FIRST PERFORMANCE YEAR

Home Dialysis | The KCF model option increased the proportion of patients with ESRD dialyzing at home. Both model options increased the use of peritoneal dialysis, the primary modality for home dialysis.

Utilization | KCC had no impact on the overall frequency of outpatient dialysis utilization, hospitalizations, readmissions, or emergency department visits.

Medicare Payments | The model had no impact on Total Medicare Parts A & B payments or Part D drug costs per patient per month, and it did not result in statistically significant net savings or losses to Medicare.

Quality | The CKCC model option increased the percentage of new patients with ESRD who received a planned start of renal replacement therapy (Optimal ESRD Starts).

Transplants | Overall, the KCC Model did not affect the kidney transplant rate, but the CKCC option increased the percentage of patients with an “active” waitlist status.

Model Implementation | KCC Participants used Benefit Enhancements, developed partner relationships, participated in Learning System activities, addressed low patient activation scores, and screened for social needs.

The Centers for Medicare & Medicaid Services (CMS) Center for Medicare and Medicaid Innovation launched the Kidney Care Choices (KCC) Model on January 1, 2022. KCC is a voluntary model that provides incentives to improve care management for Medicare fee-for-service patients with chronic kidney disease (CKD) Stage 4 or 5 and end-stage renal disease (ESRD). Specifically, the model is designed to achieve the following goals for this patient population:

Delay the progression to dialysis	Increase use of home dialysis	Increase access to kidney transplantation	Reduce the cost of care	Improve quality of care
--	--	--	--------------------------------------	--------------------------------------

KCC builds on the Comprehensive ESRD Care (CEC) Model, which operated from October 2015 through March 2021. The CEC Model led to small decreases in Medicare payments for services and maintained or improved quality of care and patient outcomes.¹ The KCC Model differs from the CEC Model in several key ways. For example, the KCC Model:

- Strengthens financial incentives for desired outcomes, such as increased home dialysis and transplantation rates
- Includes patients with CKD Stage 4 or 5 (not just those with ESRD on dialysis) to help delay kidney disease progression and better prepare patients whose kidneys do fail
- Offers multiple options for provider participation to increase opportunities for engagement
- Centers on nephrology practices, rather than dialysis facilities, as the primary participants

The Innovation Center contracted with The Lewin Group and our partners at the University of Michigan Kidney Epidemiology and Cost Center and Arbor Research to evaluate the KCC Model, with a focus on whether the model achieved its primary objectives. In this first annual evaluation report, we examine the impacts of KCC on important aspects of kidney care and patient outcomes during the first model performance year (Performance Year [PY] 2022).

ES.1. Model Overview

The KCC Model began with an initial cohort of 85 participants in 2022 and will run for 5 years. Between PY 2022 and PY 2023, five Cohort 1 KCEs and four Cohort 1 KCF Practices left their respective model options, with one practice leaving KCF to create additional partnerships to form a KCE. A second and final cohort of participants joined the model on January 1, 2023, resulting in a total of 130 participants. The concurrent and complementary ESRD Treatment Choices (ETC) Model, which began operations on January 1, 2021, mandated participation by dialysis facilities and managing clinicians in a randomly selected 30% of Hospital Referral Regions (HRRs).² Conversely, KCC participation was fully voluntary, although it could overlap with mandatory ETC participation. Both models provide incentives spanning a range of clinical opportunities for improvement.

KCC Participants engage in one of two model options, Kidney Care First (KCF) or Comprehensive Kidney Care Contracting (CKCC), which are summarized below.

Kidney Care First (KCF)	Comprehensive Kidney Care Contracting (CKCC)
<ul style="list-style-type: none"> ■ Nephrology practices and their nephrologists and nephrology professionals can elect to participate in the KCF option. ■ They receive capitated payments for managing the care of aligned patients, payment adjustments based on quality and utilization, and bonus payments for successful transplantation. 	<ul style="list-style-type: none"> ■ CKCC is available to nephrology practices that team with a transplant provider and optional partners such as dialysis facilities, vascular access surgeons, care management companies, or home care providers to form Kidney Contracting Entities (KCEs). ■ CKCC is a total cost of care model for all Medicare Parts A & B (hospital and medical) services and features varying levels of risk borne by the KCEs.

¹ Marrufo, G., Negrusa, B., Ullman, D., et al. (2022). *Comprehensive End-Stage Renal Disease Care (CEC) Model: Fifth annual evaluation report*. <https://www.cms.gov/priorities/innovation/data-and-reports/2022/cec-annrpt-py5>

² In addition to the randomly selected HRRs, ETC includes HRRs for which at least 20% of the component ZIP Codes are in Maryland. These HRRs were included in conjunction with the Maryland Total Cost of Care Model.

In both model options, participants receive capitation payments, including an Adjusted Monthly Capitated Payment for patients with ESRD and a Quarterly Capitated Payment for patients with CKD, and earn a bonus payment for patients who receive a kidney transplant. In CKCC, participants are also eligible for shared savings depending on the level of risk they bear.

ES.2. Summary of Findings

To estimate impacts of the KCC Model, we compared changes in outcomes before and after model implementation for patients aligned to the model and patients aligned to similar nephrology practices not participating in the model.³ The results of these impact analyses for PY 2022 are summarized in **Exhibit ES-1**.⁴ Impacts are expressed as favorable, unfavorable, or no change.








Several impacts were favorable (that is, the model improved outcomes), but for many outcomes, we did not identify statistically significant effects of the model in PY 2022. For example:

- We observed significant increases in home peritoneal dialysis (PD) in both model options.
- We found significant increases in home dialysis in KCF and home dialysis training in CKCC.
- Total Medicare Parts A & B payments did not change significantly in either model option, and the model did not result in a statistically significant net impact.
- Most quality measures were unchanged, but we identified a substantial increase in Optimal ESRD Starts in CKCC.
- Transplantation rates did not change significantly in either model option, but active waitlisting increased in CKCC, which may be a precursor of future increases in transplantation.
- Patient experience of care for in-center dialysis was largely unchanged, but Patient Activation Measure (PAM[®]) survey scores, which measure patients' ability to manage their health care, increased in both model options.

³ PAM scores were compared between initial and follow-up surveys in 2022 among patients aligned to KCF or CKCC. The analysis did not use a comparison group because PAM scores were available only for KCC-aligned patients.

⁴ **Notes for Exhibit ES-1:** Arrow indicates the direction of the statistically significant cumulative impact estimate. Detailed impact estimates for each outcome are included in the body of the report. ^In-center HD includes in-center hemodialysis, in-center self-dialysis, and in-center nocturnal dialysis. † indicates a parallel trends violation. ¹PAM scores are compared from initial to follow-up survey in 2022 among patients aligned to KCF or CKCC. The analysis does not use a comparison group due to the unavailability of PAM scores other than for KCC-aligned patients. * Indifferent interpretation of favorable or unfavorable, as graft use increased and the shift might not clearly represent lower quality. CKCC = Comprehensive Kidney Care Contracting; CKD QCP = chronic kidney disease Quarterly Capitated Payment; DiD = difference-in-differences; ED = emergency department; ESRD = end-stage renal disease; HD = hemodialysis; KCF = Kidney Care First; PAM = Patient Activation Measure; PY = performance year.

Exhibit ES-1. Summary of Evaluation Findings

Domain	Outcome	KCF Option Impact PY 2022	CKCC Option Impact PY 2022	
Dialysis Modality 	Home Dialysis	↑		
	Peritoneal Dialysis	↑	↑	
	Home Hemodialysis			
	In-Center Hemodialysis ^	↓		
	Number of Outpatient Dialysis Sessions			
	Home Dialysis Training		↑	
Transplantation 	Overall Waitlisting		↑+	
	Active Status		↑	
	Inactive Status			
	Overall Transplants			
Utilization 	Acute Care Hospitalization			
	Readmission			
	All ED Use			
	Outpatient ED Use			
Medicare Payments 	Total Parts A & B			
	Total Part A			
	Total Part B	↓+		
	Evaluation and Management		↑	
	Hospital Outpatient Payments			
	Total Dialysis Payments	+	↑	
	Home Dialysis Payments	↑	↑+	
	Home Hemodialysis Payments	+	↓	
	Peritoneal Dialysis Payments	↑+	↑+	
	Net Impact to Medicare Part D			
Quality of Care 	Percentage of Patients with No Nephrology Care			
	Hospitalizations for Vascular Access Complications			
	Hospitalizations for ESRD Complications			
	Care Utilization Due to Hyperkalemia			
	Fistula Use*	↓		
	Graft Use	↑+		
	Optimal ESRD Starts		↑	
	Hypertension Medication Use			
	Diabetes Medication Use (Metformin)			
	Diabetes Medication Use (SGLT2)			
	Testing Labs		↑	
CKD QCP List Services				
Patient Experience 	PAM Survey Score ¹	↑	↑	
In-Center HD Patient Experience of Care for CKCC Participants 	Rating of Kidney Doctors			
	Rating of Dialysis Center Staff			
	Rating of Dialysis Center			
	Nephrologists' Communication and Caring			
	Quality of Dialysis Center Care and Operations			
	Providing Information to Patients			
	Discussions about Right Treatment for Beneficiary			
	Beneficiary Received Explanation for why They Were Ineligible for Transplant			
Discussions about Peritoneal Dialysis		↑		
Key:		 Favorable at p<0.10	 Unfavorable at p<0.10	 No Change

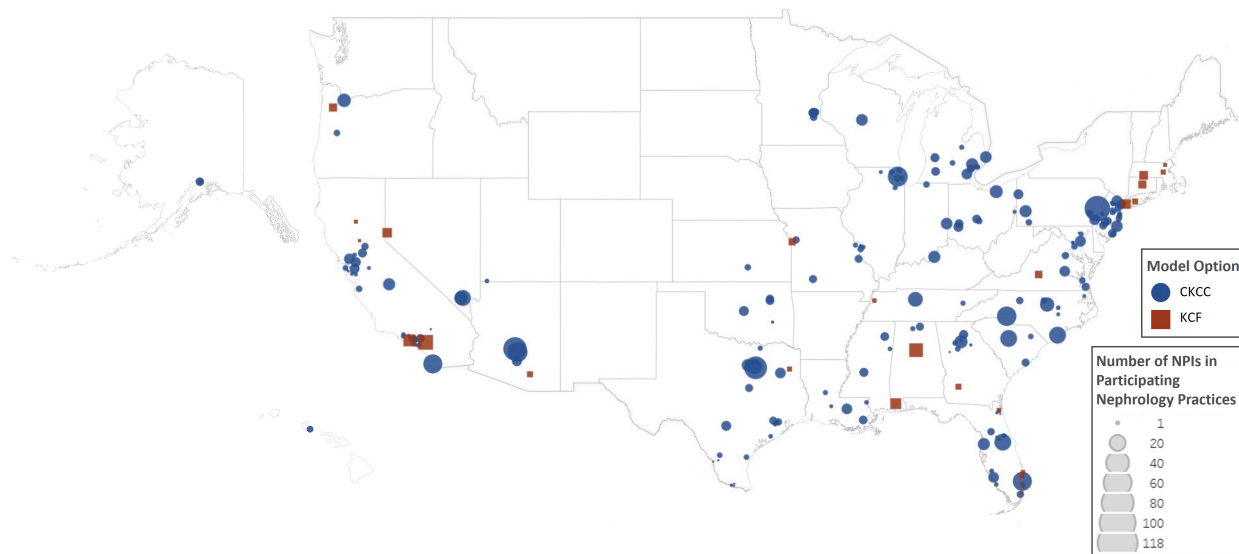
ES.3. Findings by Research Question

ES.3.1. Who Participates in the KCC Model?

- Cohort 1 included 30 KCF Practices and 55 KCEs across 33 states and the District of Columbia.
- A total of 291 nephrology professionals participated in KCF and 2,565 participated in CKCC, with 133 transplant providers and 2,217 dialysis facilities joining CKCC as optional partners.
- KCC Participants treated 30% of patients eligible for the model nationwide.

Because KCC is a voluntary model, understanding which providers participate is important for conducting the evaluation. Cohort 1 consisted of 30 KCF Practices and 55 KCEs spanning 33 states and the District of Columbia, as shown in **Exhibit ES-2**. Seventeen states, primarily in the West and more rural parts of the Midwest, did not have any Cohort 1 KCC Participants.

Exhibit ES-2. Location and Size of KCF Practices and Practices That Formed KCEs as of 2019



Notes: Data on KCF Practices and KCEs were based on the Q2 PY 2022 participation list of aligning providers. We used physician ZIP from CKD and ESRD claims submitted by aligning providers to identify a practice’s primary ZIP Code (practices often have more than one location). Size of practice is based on the number of NPIs in 2019. CKCC = Comprehensive Kidney Care Contracting; CKD = chronic kidney disease; ESRD = end-stage renal disease; KCE = Kidney Contracting Entity; KCF = Kidney Care First; NPI = National Provider Identifier; PY = performance year; Q = quarter.

At the provider level, Cohort 1 included 291 nephrology professionals in KCF and 2,565 in CKCC. In addition, 133 transplant provider partners and 2,217 dialysis facilities joined CKCC as optional partners. KCC Participants cared for 30% of patients eligible for the model nationwide. Model participants were larger than non-participants, in terms of number of aligned patients. KCC Model participation was also positively associated with prior CEC Model participation.

ES.3.2. What Were the Impacts of the KCC Model?



Utilization

- **Use of home dialysis** in KCF grew by 2.1 percentage points (or 20%). **Use of PD** increased by 2.3 percentage points (or 26%) in KCF and 0.74 percentage points (or 8%) in CKCC.
- We did not identify impacts on emergency department use or hospitalizations for either model option.



Payments

- The model did not affect **Total Medicare Parts A & B payments**.
- We observed a small increase in evaluation and management payments (\$1 per patient per month, or 2%) and total dialysis payments (\$28 per patient per month, or 1%) in CKCC.
- The model did not result in statistically significant net savings or losses to Medicare.



Quality of Care

- Most quality metrics were unchanged in both model options, with two notable exceptions:
 - In KCF, we found a decline in arteriovenous fistulas of 5.3 percentage points (or 9%), which does not necessarily imply a decrease in quality without a corresponding increase in catheter use (to be examined in future reports).
 - In CKCC, we observed a 6.9 percentage point (or 16%) increase in **Optimal ESRD Starts**.



Transplantation

- We did not find a differential increase in **kidney transplant rates** between the model and comparison groups.
- We observed a 1.8 percentage point (or 15%) increase in patients with an active **waitlist status** in CKCC.

Key model outcomes are bolded.



Utilization

The model's incentives could drive an increase in the use of home dialysis, a key utilization outcome of the model. Dialysis-specific measures changed in both model options. In KCF, home dialysis (PD or home hemodialysis) rose by 2.1 percentage points (or 20% in relative terms), and use of PD increased by 2.3 percentage points (or 26%). In CKCC, the increase in overall home dialysis use was smaller (0.76 percentage points, or 7%) and narrowly missed statistical significance, but the increase in PD (0.74 percentage points, or 8%) was significant. We also measured changes in the use of home dialysis training, an important step for patients to dialyze at home. CKCC had a significant increase in home dialysis training (0.15 percentage points, or 32%), so it will be useful

to track the extent to which this increase in training translates into subsequent changes in home dialysis use. Utilization measures, such as hospitalization and emergency department use, were unaffected in the first year of KCC.



Payments

A key payment outcome of the model is lowering Total Medicare Parts A & B payments. The model may reduce Medicare payments by shifting patients toward home dialysis and improving care management and patient education, which could decrease hospitalizations and emergency department visits. Overall, the KCC Model did not affect Total Medicare Parts A & B payments. KCF Practices experienced a potentially meaningful decline in Total Medicare Parts A & B per patient per month (PPPM) payments of \$134 (3%), but the estimate was not statistically significant. In CKCC, although Part B payments were unchanged overall, we observed a small, statistically significant increase in the subcategories of evaluation and management payments (\$1 per patient per month, or 2%) and total dialysis payments (\$28 per patient per month, or 1%). Changes in payments by dialysis modality corresponded to the changes in utilization described above. For example, home dialysis payments increased in KCF, consistent with the increase in home dialysis utilization in this model option.

To estimate net impacts of KCC, we calculated the difference between aggregate payment reductions and model costs during the first performance year. We identified non-statistically significant net losses to Medicare of \$52 million, or \$44 PPPM.



Quality of Care

Higher-quality care due to the model could lead to better patient outcomes. We found that KCF quality metrics were largely unchanged, except we did identify a decline in arteriovenous (AV) fistulas (5.3 percentage points, or 9%). This shift is not a concern as long as there is not a corresponding increase in catheter use, which we will investigate in future reports. Effects on several KCF measures had potentially meaningful magnitudes but were not statistically significant, suggesting that these outcomes may emerge as significant as additional data accrue through longer follow-up. Most CKCC quality metrics were also unchanged, with one notable exception: a 6.9 percentage point (or 16%) increase in Optimal ESRD Starts, a key outcome of the model. This increase could reflect improvements in pre-ESRD education and planning, through use of the Kidney Disease Patient Education Services waiver, a desired outcome of including patients with CKD Stage 4 or 5 in the model. Optimal ESRD Starts measures the percentage of new patients with ESRD who have a planned start of renal replacement therapy.⁵



Transplantation

Increased transplant waitlisting and transplant rates are key outcomes of the model. For transplant waitlisting, which is often a precursor to transplantation, the KCF model option had no impact on overall rates or rates of active or inactive status. In the CKCC model option, we found a 1.8 percentage point (or 15%) increase in patients with an active waitlist status, indicating that they are suitable for immediate transplantation when an organ becomes available.

⁵ For this measure, a “planned start of renal replacement therapy” means the patient (1) received a preemptive kidney transplant, (2) initiated chronic dialysis on a home dialysis modality, or (3) initiated outpatient in-center hemodialysis via AV fistula or AV graft.

The model incentivizes kidney transplantation through bonuses for transplants. Transplant rates rose over time in both model options and comparison groups, but there was no differential increase in either model option during the first performance year. However, in CKCC, there was an increase in preemptive transplants (that is, transplant before starting dialysis) of 1.9 per 1,000 patient-months that was nearly significant. In relative terms, the increase was large (57%), so if this effect becomes statistically significant as more data accrue over time, it would be a meaningful increase.

ES.3.3. Did the KCC Model Affect Patient Experience of Care?

- For in-center dialysis patients in CKCC, we observed limited changes in patients’ experience of care from the pre-KCC period to the KCC intervention period relative to the comparison group or dialysis facilities with a KCC presence.
- PAM scores for patients aligned to KCC improved by 8.8 points from the first to the second survey administered in 2022, but no pre-KCC or comparison group data were available to help determine whether this change was due to the model.

By promoting kidney disease education and awareness of treatment options, the KCC Model intends to make care more patient centric. To that end, we convened a Patient Advisory Group (PAG) to inform this evaluation. The PAG consisted of patients who had experienced CKD and various renal replacement therapy modalities. Four major themes emerged from the discussions: (1) insufficient kidney disease education, (2) gaps in modality education and selection, (3) the need for improved access to transplants, and (4) recognition of care partner burden. These findings guide interpretation of quantitative results and design of qualitative approaches, such as the site visits to be conducted in the second year of the evaluation.

“No one ever mentioned anything about options. The few times I saw a nephrologist each time ... you know, they sent me to their [in-center] dialysis clinic.”

– Patient Advisory Group Participant

We assessed the model’s impact on patient experience through two surveys. The In-Center Hemodialysis Consumer Assessment of Healthcare Providers and Systems (ICH CAHPS®) survey gathers information on patients’ experience with in-center dialysis. The PAM survey assesses patients’ fundamental knowledge, skills, and confidence necessary to manage their health care.

For in-center dialysis patients in CKCC, we found limited changes in ICH CAHPS Survey responses for facilities partnered with KCEs.⁶ We did not observe a difference for eight of the nine measures evaluated. However, we did find that having a higher percentage of KCC-aligned patients at a given facility was associated with an increase in the share of patients who responded that they have discussed PD, the predominant form of home dialysis, with their kidney doctor.

For the PAM survey, we found that scores improved between patients’ first and last survey administered in 2022, suggesting that efforts to increase patients’ engagement in their care were

⁶ ICH CAHPS is a facility-level survey. The KCF model option focuses on nephrology practices, with little participation from facilities. Therefore, the ICH CAHPS analysis focuses on CKCC.

effective. Results should be interpreted with caution since PAM scores were not available for aligned KCC patients for the pre-KCC period or for the comparison group.

ES.3.4. How Did Participants Implement the KCC Model?

- To implement the model, KCC Participants used Benefit Enhancements, developed partner relationships, participated in Learning System activities, addressed low PAM scores, and screened for health-related social needs.
- CKCC Participants reported higher use of interventions for low PAM scores or social needs than did KCF Participants.

We surveyed KCC Participants to understand how they implemented the model, including their:

- Preparations for model participation
- Use of model design features such as Benefit Enhancements, Beneficiary Engagement Incentives, and Learning System activities
- Strategies to increase transplantation
- Use of the PAM and assessments of patients' health-related social needs

On most measures, CKCC Participants reported more extensive engagement and implementation activities than did their counterparts in KCF. These differences make sense given that the CKCC model option requires collaboration between different provider partners, whereas KCF is limited to nephrology practices and their nephrologists or nephrology professionals. KCEs are also larger on average relative to KCF Practices, which may help explain why CKCC Participants reported more implementation activities.

In addition, CKCC Participants reported higher use of interventions for low PAM scores or social needs. These survey results will help inform upcoming site visits and allow us to assess implementation steps and barriers in more detail.

ES.3.5. Did the KCC Model Have Unintended Consequences?

- The model did not appear to have the unintended effect of increasing Medicare Part D costs, which could indicate a shift toward care outside of KCEs' shared responsibility.
- We will continue to monitor for evidence of care shifting and other potential unintended consequences of the model.

We assessed unintended consequences, such as care skimping or shifting, that may be incentivized in a shared savings model such as CKCC. For PY 2022, we tested for increases in Part D costs, which could indicate a shift toward care outside the KCE's shared responsibility. However, we did not find evidence of such care shifting in the first year.

We will continue to monitor care shifting and remain aware of other potential unintended consequences of the model. For example, the PAG raised concerns about model implementation that could guide future analyses of unintended consequences, including the possibility that some home dialysis use might be provider driven rather than patient centric. If shifts toward home dialysis are not centered on patient needs and preferences, we might expect to see an increase in patients who start home dialysis but quickly switch or return to in-center dialysis.

ES.4. Discussion

The evaluation findings for the KCC Model’s first performance year, PY 2022, provide insights into the early effects of the model and lay the groundwork for future reports.

PY 2022 Insights

Several observations about KCC Model participation may have implications for both the evaluation strategy and the model’s ultimate scalability. Cohort 1 KCC Participants operated in about two-thirds of states but were underrepresented in more rural states. In addition, participating practices tended to be larger than non-participants and were more likely to have prior experience in value-based kidney care through the CEC Model. To account for these differences, our analysis used matched comparison groups on non-participants to assess the impact of the KCC, rather than making comparisons to the performance of all non-participants. This approach reduces the potential for selection bias to affect our findings. Nonetheless, the disproportionate participation by larger and more experienced providers implies that the findings might not apply to the smaller or less experienced practices that tended not to participate. In the next annual evaluation report, we will be able determine whether participants who joined in Cohort 2 were more likely than those in Cohort 1 to be small practices with less prior experience in value-based care models. If so, this could reduce concerns about whether the findings would apply to those types of providers.

In the first year of the KCC Model, we found evidence of gains in certain aspects of care incentivized under the model, such as the use of home dialysis, transplant waitlisting, Optimal ESRD Starts, and PAM scores. However, some of these results were limited to only one of the model options. Further, we did not identify statistically significant effects of the model on Total Medicare Parts A & B payments, net Medicare savings or losses, hospitalizations, most quality measures, or transplantation rates.

Higher use of home dialysis is a major model objective. In KCF, overall home dialysis and home PD rates increased. In CKCC, PD rates increased, and the increase in overall home dialysis was almost significant. Increased access to transplantation is another major model objective. Transplantation rates did not change differentially for participants relative to non-participants in the first performance year, but we did find an increase in patients with active status on the transplant waitlist in CKCC. Site visits in the coming evaluation year will explore potential mechanisms underlying this result.

Next Steps

Overall, the KCC Model showed some promising effects in its first performance year. In future annual evaluation reports, we will identify whether these early trends persist and whether other patterns emerge as more data accrue and participants gain more experience with the model. In particular, we found several suggestive results where the estimated impact appeared qualitatively meaningful but the

effect narrowly missed statistical significance. Further, new findings could emerge for outcomes that take multiple years of intervention to change, such as those that require sustained efforts, major investments, or multiple steps. For example, transplant waitlisting trends may respond quickly, but that would only be the first step toward increasing the frequency of transplants. In addition, some outcome measures apply only to specific subgroups of aligned patients (for example, patients with CKD Stage 4 or 5, patients just starting dialysis, or those eligible for a transplant). Thus, it may take multiple years to accrue sufficiently large samples or sufficiently long follow-up to detect differences for some measures that do not apply to the entire population. Finally, we may gain sufficient statistical power to pursue new participant subgroup analyses (for example, examining differences in risk options within CKCC). Evaluations of subsequent years will also include Cohort 2, which will add to the sample size and statistical power.

Another area of interest in future annual evaluation reports will be potential interactions or complementary effects between the voluntary KCC Model and the mandatory ETC Model. Important model goals, such as increasing home dialysis and transplantation, overlap across both models. Given the PAG's emphasis on the importance of early, repeated, and multipronged modality education efforts, the inclusion of patients with CKD Stage 4 or 5 in the KCC Model may enhance the opportunities of providers jointly participating in ETC to affect those outcomes. Similarly, the ETC Model's health equity incentives may enhance the effectiveness of KCC Participants that care for historically underserved populations.