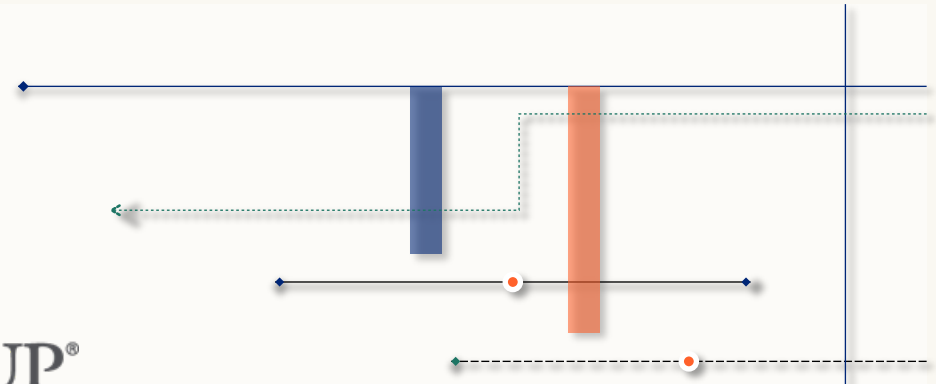


LEWINGROUP®
Part of Optum Serve

Executive Summary

Third Annual Evaluation Report *of the* **End-Stage Renal Disease Treatment Choices Model**

Key Findings for Calendar Years 2021–2023

Prepared for the Centers for Medicare & Medicaid Services

August 2025

About the authors

Submitted by:

The Lewin Group, with our partners Arbor Research Collaborative for Health and the University of Michigan Kidney Epidemiology and Cost Center

Lewin's address:
3237 Airport Rd
La Crosse, WI 54603

Prepared for:

Centers for Medicare & Medicaid Services

Federal Project Officer:
Sarah Lewis, PhD, MSPH
Research and Rapid Cycle Evaluation Group, Center for Medicare and Medicaid Innovation, Centers for Medicare & Medicaid Services

Authors:

Brighita Negrusa, Jennifer Wiens, Darin Ullman, Mary Beth Schaefer, Marc Turenne[1], Purna Mukhopadhyay[1], Eric Young[1], Rebecca Mandell[1], Alyssa Pozniak[1], Rashmi Goyat[1], Nan Ji[1], Alexis Martin[1], Jon Wiseman[1], Heather Dudek[1], Kaden Milkovich[1], Claudia Dahlerus[2], and Richard Hirth[2]

Acknowledgments:

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

Dan Gregory, Brian Mercer, Kelsey Bacon, Rachel Pinson, Annalise Maillet, Daniel Strubler, Savannah Lantz, Alexander Johann, Jessica Donnelly[1], Nate Goodrich[1], Jonathan Segal[2], Vahakn Shahinian[2], and Valarie Ashby[2]

[1]Arbor Research Collaborative for Health
[2]University of Michigan Kidney Epidemiology and Cost Center (UM-KECC)

Disclaimer | This project was funded by the Centers for Medicare & Medicaid Services under contract no. 75FCMC19D0096, task order no. 75FCMC22F0001. 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.

About this document

This executive summary presents key findings from the evaluation of the Centers for Medicare & Medicaid Services (CMS) End-Stage Renal Disease (ESRD) Treatment Choices (ETC) Model for the first 3 model years (2021–2023). It provides a snapshot of the full ETC Model evaluation report:

- Overview of ETC Model goals, timeline of Medicare models focused on kidney care, and important context for understanding model impacts
- Impacts of the model on home dialysis use, transplants, payments, quality of care, patient subpopulations of interest, and patient-reported outcomes
- Future directions of the model evaluation

This document is meant to serve as a resource for policymakers, program administrations, and other stakeholders that would benefit from a high-level synopsis of the ETC Model's findings.

Want more information?

Review the complete technical report and appendix for a detailed description of the 2021–2023 evaluation findings:

- Technical Report | 100 pages
- Appendix | 150 pages

For a shorter summary of the evaluation results, see the two-page overview:

- Findings at a Glance | 2 pages

Previous evaluation reports are available on the ETC Model website:

- ETC Model Website

Key Takeaway

The End-Stage Renal Disease (ESRD) Treatment Choices (ETC) Model modestly increased rates of home dialysis training and preserved quality of care in its first 3 years, with limited progress on other goals.

ETC Model in 2021–2023

Mixed methods | The evaluation uses qualitative and quantitative approaches to assess the model's impact

More information on page 7

Model context

95 ETC hospital referral regions

2,591 ESRD facilities

6,379 Managing Clinicians

142,000 unique patients with ESRD

34% of fee-for-service Medicare beneficiaries with ESRD

More information on page 8

Home dialysis use

360 more patients receiving home dialysis training per year in ETC areas than in comparison areas

No impact on home dialysis use

More information on page 9

Kidney transplants

183 more kidney transplants per year in ETC areas than in comparison areas. This growth in overall transplants was driven by deceased donor transplants, which have increased nationally in the past decade but are not directly incentivized by the model.

No change in transplant waitlisting

More information on page 10

Patient Subpopulations of Interest

No consistent negative or positive impacts on patient subpopulations of interest, but interviews with providers and patients revealed barriers to treatment access

More information on page 12

Patient experience

No difference in patient-reported care experience and quality of life between ETC and comparison patients

More information on page 13

Care use and payments

No impact on claims-based quality of care outcomes, including ESRD-related infections and complications

Net increase in Medicare payments of $99 million in 2021–2023 driven by model payment adjustments

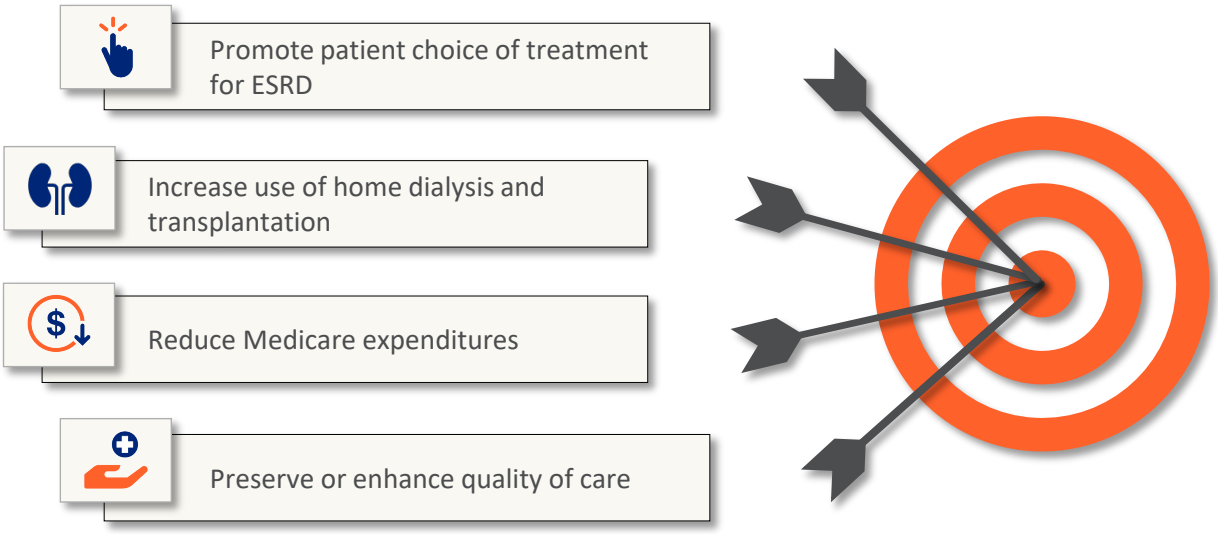
More information on page 11

Click "links" to navigate to the full description

The ETC Model aims to expand home dialysis and transplants and reduce Medicare spending while maintaining or improving quality of care.

The End-Stage Renal Disease (ESRD) Treatment Choices (ETC) Model is a mandatory model designed to encourage greater use of home dialysis and kidney transplantation for Medicare fee-for-service patients with ESRD. The Centers for Medicare & Medicaid Services (CMS) Innovation Center launched the model in 2021 with four key goals.

The ETC Model provides incentives to achieve key model goals.



The ETC Model requires participation by certain Medicare-certified dialysis facilities, also called ESRD facilities, as well as Managing Clinicians, which include nephrologists and other qualified practitioners. CMS chose ESRD facilities and Managing Clinicians from 31% of hospital referral regions nationwide to participate in the model from January 2021 to the proposed end in December 2025. ETC includes Hospital Referral Regions selected at random throughout the US and those in Maryland.

CMS contracted with The Lewin Group, Inc., and our partners Arbor Research Collaborative for Health and the University of Michigan Kidney Epidemiology and Cost Center, to evaluate how the ETC Model affects care and outcomes for patients with ESRD. In the third evaluation report, we present impacts of the model in 2021–2023. The ETC Model increased home dialysis training and maintained quality of care, but we did not find strong signals that the model affected other aspects of patient care during this time.

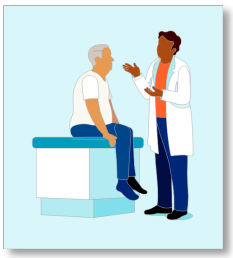
ETC is one in a series of Medicare models focused on improving care for patients with kidney disease.

CMS has tested a series of models focused on improving care for patients with kidney disease. As of 2022, the mandatory ETC Model and voluntary Kidney Care Choices (KCC) Model are active at the same time, and these models share some key goals, such as increasing home dialysis and transplants. ETC and KCC build on the Comprehensive ESRD Care (CEC) Model, a voluntary model in which Accountable Care Organizations coordinated care for patients with ESRD. While ETC is proposed to end in December 2025, KCC will overlap in its final years with the Increasing Organ Transplant Access (IOTA) Model, a mandatory model that aims to increase access to kidney transplants. Given the overlap in these model designs, there is potential for these models to have mutually reinforcing effects.

The **Advancing American Kidney Health Initiative**, announced in 2019, aims to improve diagnosis and treatment for patients with chronic kidney disease and kidney failure.

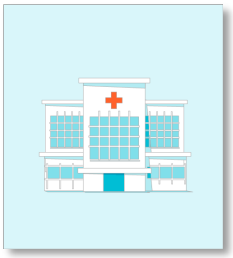
The ETC Model complements other Medicare models designed to enhance the continuum of care for chronic kidney disease.

Comprehensive ESRD Care (CEC) Model
Oct 2015–Mar 2021
First disease-focused Medicare Accountable Care Organization model, designed to test new ways to improve care for patients with ESRD



ESRD Treatment Choices (ETC) Model
Jan 2021– proposed to end Dec 2025
Mandatory model focused on expanding use of home dialysis and transplants for patients with ESRD

Kidney Care Choices (KCC) Model
Jan 2022–Dec 2027
Voluntary model that aims to improve care management for patients with chronic kidney disease Stage 4 or 5 and ESRD



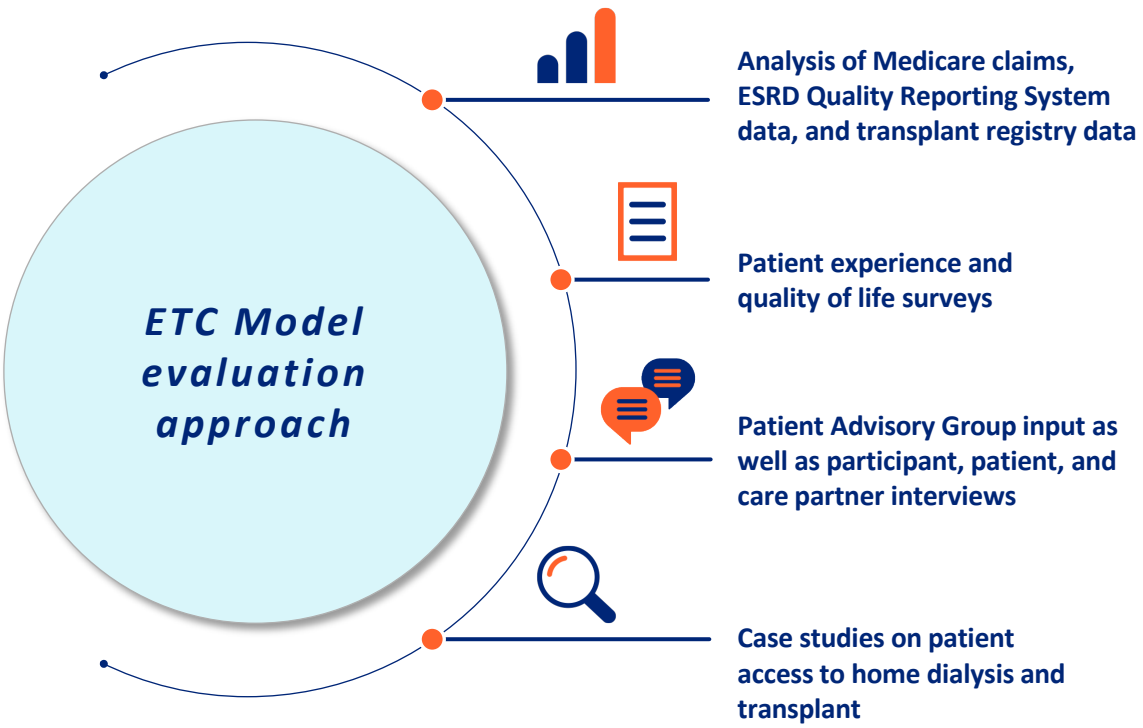
Increasing Organ Transplant Access (IOTA) Model
Jul 2025–Jun 2031
Mandatory model with the goal to increase access to kidney transplants

The evaluation uses multiple methods to assess the ETC Model's effects on outcomes, care transformation, and patient experience.

The evaluation uses a mixed-methods approach to estimate the impacts of the ETC Model. The third annual evaluation report builds on prior reports by including more analyses of patient-reported outcomes, an examination of dialysis modality transitions, and an expanded focus on patient subgroups of interest. These new analyses incorporate data that we collected through large-scale patient experience of care and quality of life surveys and through case studies on patient access to care that included interviews with patients, ESRD facility staff, and Managing Clinicians. Also new in the third annual report is an assessment of the net impact of the Medicare payment adjustments to ETC Participants.

To evaluate model impacts, we compared changes in patient outcomes before and after model implementation in ETC areas and in a comparison group of areas not selected for the model.

Using mixed methods allows the evaluation team to gather findings from multiple data sources over time for a full picture of model impacts.



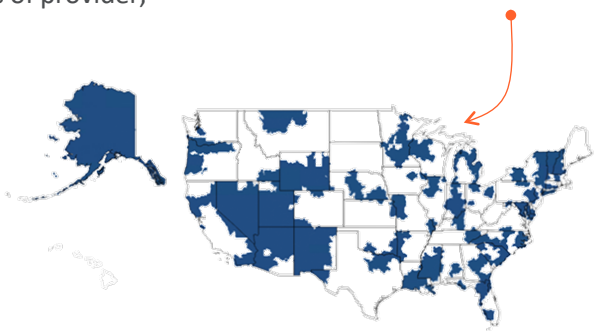
For a full description of the methods used to evaluate the ETC Model in its first 3 years, see the technical report and appendices.

Broader market and policy trends provide important context for the evaluation results.

The ETC Model spans 40 states and reaches about a third of Medicare fee-for-service beneficiaries with ESRD.

The model had a geographically broad and diverse sample in 2021–2023, and ETC and comparison areas were generally balanced in terms of provider, market, and patient characteristics.

The ETC areas included 95, or 31%, of the 306 hospital referral regions in the United States and spanned 40 states. ETC participants consisted of 2,591 ESRD facilities and 6,379 Managing Clinicians. Nearly 142,000 unique patients were attributed to the model in 2021–2023, representing 34% of Medicare fee-for-service beneficiaries with ESRD.



The share of patients on home dialysis and deceased organ transplants were increasing nationally before the ETC Model be

Trends in care delivery for patients with ESRD that predate the ETC Model are also important to consider in interpreting the evaluation results. For example, home dialysis use has grown in the United States over the past decade, so we might expect to see increased adoption of home dialysis in both ETC and comparison areas.

Additionally, regional organ procurement organizations and transplant centers have expanded organ procurement and placement efforts, resulting in substantial growth in deceased organ transplants in recent years. Although the ETC Model incentives focus on living donor transplants, this wider trend may cause increases in overall transplant rates in both ETC and comparison areas.

Share of new dialysis patients using home dialysis grew 6 percentage points from 2012 to 2022, according to the U.S. Renal Disease System

A large shift from Medicare fee-for-service to Medicare Advantage plans led to changes in the number and characteristics of patients in ETC and comparison areas.

Starting in 2021, with the enactment of the 21st Century Cures Act, all patients with ESRD could enroll in Medicare Advantage. The ETC patient sample size has steadily declined since 2021 due to greater enrollment of patients with ESRD in Medicare Advantage plans which may have implications for the strength of ETC incentives. Patients remaining in fee-for-service Medicare have different demographic and socioeconomic characteristics than those who enrolled in Medicare Advantage.

The ETC Model led to increased home dialysis training and transitions from home dialysis to kidney transplantation.

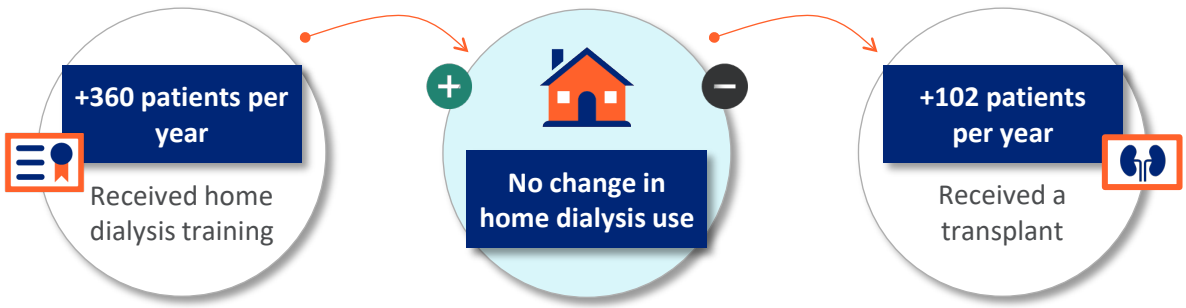
In-center hemodialysis is the main mode of treatment for ESRD in the United States, but underused treatments such as home dialysis and kidney transplants can offer advantages over in-center care. For instance, home dialysis provides more scheduling flexibility and patient independence, and transplants can improve survival and quality of life for eligible patients.

ETC and comparison patients on home dialysis reported similar care experiences and quality of life on a novel survey fielded by the evaluation team.
More information on page 13

The ETC Model provides financial incentives to expand the use of home dialysis. While home dialysis continued to grow nationally in 2021–2023, its use in the ETC areas did not increase faster than in comparison areas. However, the ETC Model led to increased home dialysis training, an important step for patients to dialyze at home. In 2021–2023, the model resulted in 360 additional patients on average per year receiving home dialysis training in ETC areas relative to comparison areas, or a 10% increase over pre-ETC rates.

To better understand these impacts, we assessed transitions to or from home dialysis. ETC did not affect the frequency with which patients start or stop home dialysis, but it did result in increased transitions from home dialysis to transplantation in ETC areas relative to the comparison group. On average, ETC led to an estimated 102 additional home dialysis patients per year receiving a transplant in the first 3 model years, a 15% increase over pre-ETC rates. Growth in home dialysis training may translate to an increase in patients starting home dialysis, while the growth in transitions from home dialysis to transplantation reflects a decrease in patients on home dialysis. These changes may partially offset each other, which could explain why home dialysis use did not change.

Increases in home dialysis training and in transplants among home dialysis patients may have offset each other in 2021–2023.



In interviews, providers described barriers to home dialysis use, such as a lack of provider resources to address the needs of certain patient subpopulations. These barriers may have limited the growth of home dialysis use under the model.

Overall transplant rates increased in ETC areas, driven by the growth in deceased donor transplants.

One of the ETC Model's core goals is to increase transplants, a potentially life-saving treatment that may be more cost-effective than long-term dialysis. A key to the growth in kidney transplants is more emphasis on living donor transplants. ETC Participant performance is based in part on their patients' rates of living donor transplants and transplant waitlisting, which is a crucial step toward receiving a deceased donor transplant.

Overall transplant rates increased under the ETC Model in 2021–2023, reflecting faster growth in transplant rates in the ETC areas than in comparison areas. On average, ETC areas had an additional 183 kidney transplants per year, or a 9% increase over pre-ETC rates. This growth in overall transplants was driven by deceased donor transplants, which have increased nationally in the past decade. While the model's incentives to increase waitlisting could translate to more deceased donor transplants, waitlisting rates did not change in ETC areas relative to the comparison areas in the first 3 years of the model. Thus, the reason for the growth in deceased donor transplants in ETC areas is unclear.

Challenges facing patients and providers may be limiting gains in waitlisting, despite the model's incentives. In interviews, some patients reported barriers that they could not overcome when trying to navigate the waitlisting process, and providers reported that these barriers hampered their ability to increase waitlisting rates.

Persistent barriers may help explain why the ETC Model did not increase transplant waitlisting.

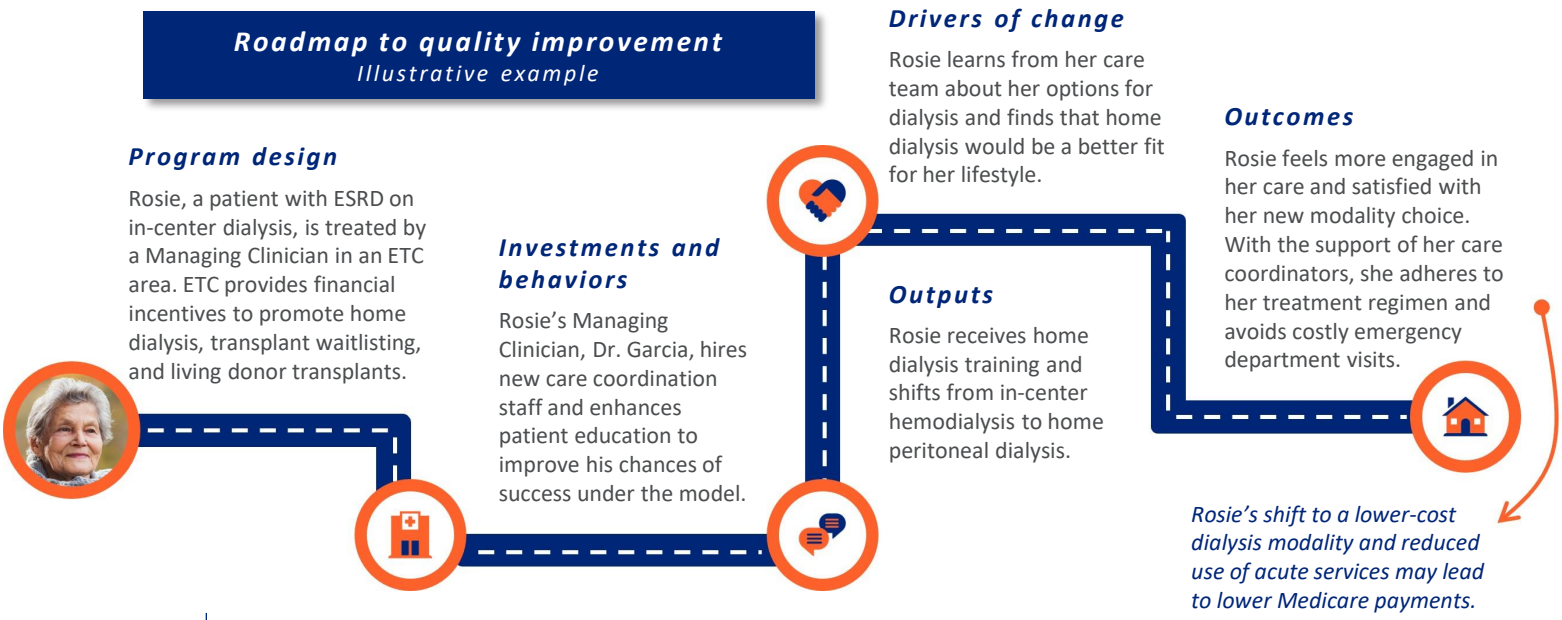
1. Lack of transportation to transplant centers
2. Limited financial resources to cover travel costs
3. Poor communication between patients, providers, and transplant centers

> ***When I have to go to the transplant team, it's out of pocket … $150 round trip in gas … most of the time, that's the biggest struggle because it always puts me behind in my rent when I do go down there.***
>
> *– Rural home dialysis patient*

The model maintained the quality of patient care but did not affect Medicare Part A, B, or D payments.

The ETC Model may enhance care for patients with ESRD by encouraging better education on treatment options and shared decision-making. Such improvements could lead to higher-quality care, possibly reducing the use of costly acute services, such as hospital stays and emergency department visits. At the same time, it is also important to monitor for any potential unintended impacts on quality of care that could result from changes in modality use.

How is the ETC Model designed to improve care and lower spending?



In 2021–2023, the ETC Model did not affect the use of acute care services, which can have implications for both quality and Medicare spending. For example, we did not find changes in the frequency of hospital stays with ESRD-related complications or of peritonitis infections among peritoneal dialysis patients. These results suggest the model did not improve or worsen the quality of care in its first 3 years. Similarly, the model did not affect Medicare Part A, B, or D payments per patient per month in ETC areas relative to the comparison areas. The model's neutral result for quality and gross Medicare spending is consistent with the lack of impact on modality and care utilization patterns.

When also taking into account the net effect of the ETC payment adjustments to participating ESRD facilities and Managing Clinicians, the model resulted in a net increase in Medicare payments of $99 million during 2021–2023.

Overall, the ETC Model did not have consistent favorable or adverse impacts on patient subpopulations of interest.

Starting in 2022, CMS adopted incentives in the ETC Model designed to improve access to care among vulnerable populations. The incentives reward favor participants that improve home dialysis and transplant rates for patients who are dually eligible for Medicare and Medicaid and those who receive the Part D Low-Income Subsidy, a benefit that lowers the cost of prescription drugs.

These modifications to the ETC Model's incentives could lead to larger gains in home dialysis and transplantation among subpopulations of interest, but they could also result in relatively smaller gains for these patients due to ongoing barriers to care. We assessed whether impacts differed for dually eligible patients, recipients of the Part D Low-Income Subsidy, and rural versus urban location.

Overall, we did not find a pattern of differential impacts among patient subgroups of interest for home dialysis use, waitlisting, transplantation, or other outcomes, with one exception. We detected faster growth in home dialysis use among rural patients. This gain led to a level of home dialysis use among patients in rural ETC areas that exceeded the level for both metro and urban ETC areas. More commonly, though, existing differences across patient subgroups largely persisted through 2023.

We conducted case studies of patient access to care, consisting of interviews with patients and providers, to understand participant efforts to address barriers to home dialysis and transplantation and factors that may prevent or facilitate gains among subpopulations of interest. Strategies reported by some participants included connecting patients to external resources, providing peer support, giving all interested patients a chance to explore treatment options, and improving tracking of where patients are in the transplant referral and evaluation process. Reported barriers to home dialysis and transplantation included the need for improved patient education on treatment options, access to reliable transportation, and better communication during the transplant process. Patients also stressed the importance of having access to mental health care, given the significant impacts ESRD treatment can have on lifestyle and both mental and physical functioning.

> ***[Home dialysis is] very overwhelming ... You are your own nurse, you are your own technician, you are your own social worker, you are your own electrician ... you lost a certain part of your life.***
>
> *– Home dialysis patient*

Patient-reported care experiences and quality of life did not differ between ETC and comparison patients.

While we use claims data to better understand use of higher- and lower-value care, another important dimension of quality is patient-reported outcomes. Patients' self-reported experiences offer a unique view into aspects of their care. However, data on the quality of life for patients with ESRD and the experiences of home dialysis patients are not routinely collected. To fill this gap, the evaluation surveyed patients in the ETC and comparison areas to capture their perspectives on their quality of life and care experiences.

The ETC Model could positively influence patient experience of care and quality of life by fostering connections to a better modality choice for each patient. Alternatively, if resources are diverted away from in-center dialysis care in response to the goal of increasing access to home dialysis and transplantation, the care experiences of patients on in-center hemodialysis could be less favorable under the model. In addition to the quality of life and home dialysis surveys, the evaluation analyzed data from a recurring survey on patient experiences with in-center hemodialysis care.

Why might care experiences and quality of life be better for ETC patients than for comparison patients?

Home dialysis experience of care

Care experiences may be better for ETC patients if model participants make investments and changes to improve outcomes for patients on home dialysis and foster appropriate connections to home dialysis modalities.

In-center hemodialysis experience of care

ETC patients on in-center hemodialysis may have enhanced care experiences if the model encourages more communication about treatment options and shared decision-making.

Patient quality of life

Quality of life may be better for ETC patients if they benefit from a more tailored approach to modality selection.

Our analyses of the data from these three patient surveys did not detect differences in patient-reported outcomes between ETC and comparison patients. For patients on home dialysis and those receiving in-center hemodialysis, experiences were similar for ETC and comparison patients. Likewise, we found no clinically meaningful differences in quality of life between ETC and comparison areas for home dialysis patients, in-center hemodialysis patients, or transplant recipients. These results reinforce our claims-based findings that suggest the model did not improve or adversely affect the quality of patient care.

Findings from the first three years of the ETC Model can help CMS and other stakeholders shape other models and policies.

As of the third year of the ETC Model, evidence suggests the model has led to small increases in the rate of home dialysis training and transplants among patients on home dialysis. These changes do not provide strong signals of model impact, but they do suggest that changes in practice that are aligned with model goals may be occurring.

Longer-term impacts of the model are still possible. ETC Participants may continue to adapt their practices and learn from ongoing efforts to encourage use of home dialysis and transplants as successful options for patients. Responses to the model may continue to evolve over time, as the magnitude of model penalties and bonuses increases.


LEWINGROUP®
Part of Optum Serve