Development of Chronic Kidney Disease (CKD) and End-Stage Renal Disease (ESRD) Cost Measures for Use in CMS Innovation Center Model

Technical Expert Panel Summary Report
September 30, 2020
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1 INTRODUCTION

The Centers for Medicare & Medicaid Services (CMS) has contracted with Acumen, LLC (Acumen) to develop 1-2 measures to assess the costs of care for Chronic Kidney Disease (CKD) and End-Stage Renal Disease (ESRD) beneficiaries for use in a model from the Center for Medicare and Medicaid Innovation (Innovation Center). The contract name is “Physician Cost Measures and Patient Relationship Codes (PCMP).” The contract number is 75FCMC18D0015, Task Order 75FCMC19F0004.

This report provides a summary of the feedback shared by panelists during the September 30, 2020, Technical Expert Panel (TEP) meeting. Acumen convened a TEP of 13 panelists including nephrologists and patient advisors. The remainder of Section 1 provides an introduction of the project. Next, Section 2 outlines the meeting structure, materials, and composition of the panel. Section 3 summarizes the presentation, panelist discussion, and key findings for each session. The discussion summaries are not meant to represent a consensus view but consolidate related feedback made by one or more panelists. Finally, Section 4 outlines the next steps for this project, taking TEP feedback into account.

1.1 Project Context

The primary goal of this project is to develop CKD and ESRD cost measures that will be used along with quality measures in the Kidney Care Choices (KCC) Model under the CMS Kidney Care First (KCF) Option. The KCC Model is a voluntary model applying adjusted capitated payments for nephrologists and nephrology practices managing Medicare beneficiaries with CKD Stages 4 and 5 and ESRD. There are four options in the KCC Model, including the KCF Option which is open to participation from nephrologists and nephrology practices only. As part of its measure development process, Acumen convenes groups of stakeholders and experts who contribute direction and thoughtful input during measure development.

1.2 TEP Panelists

The members of the CKD/ESRD Cost Measures TEP are listed in Table 1 below. Twelve panelists attended the virtual meeting on September 30, 2020; one panelist was unable to join on the day but met separately with the developer to share input.
Table 1. CKD/ESRD Cost Measures TEP Composition

<table>
<thead>
<tr>
<th>Name, Credentials</th>
<th>Professional Role</th>
<th>Organizational Affiliation, Location</th>
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<tbody>
<tr>
<td>Jeffrey Berns, MD</td>
<td>Professor of Medicine, Associate Dean</td>
<td>University of Pennsylvania, Philadelphia, PA</td>
</tr>
<tr>
<td>Scott Bieber, DO</td>
<td>Nephrologist</td>
<td>American Society of Nephrology, Coeur d'Alene, ID</td>
</tr>
<tr>
<td>Derek Forfang</td>
<td>Patient Advisor</td>
<td>San Pablo, CA</td>
</tr>
<tr>
<td>Stephen Hohmann, MD, FACS</td>
<td>Vascular Surgeon</td>
<td>Society of Vascular Surgery, Dallas, TX</td>
</tr>
<tr>
<td>Alexander Liang, MD</td>
<td>President/ CEO, Dallas Nephrology Associates</td>
<td>Renal Physicians Association, Dallas, TX</td>
</tr>
<tr>
<td>Mallika Mendu, MD, MBA</td>
<td>Physician</td>
<td>American Society of Nephrology, Mass General Brigham, Boston, MA</td>
</tr>
<tr>
<td>Michael Mittelman, MBA, Sec+, ESCP</td>
<td>Patient Advisor</td>
<td>Philadelphia, PA</td>
</tr>
<tr>
<td>Bruce ONeill, MD</td>
<td>Medical Director Nephrology</td>
<td>American Society of Nephrology, Seattle, WA</td>
</tr>
<tr>
<td>Stephen Pastan, MD</td>
<td>Professor of Medicine, Emory University School of Medicine, Medical Director, Kidney and Pancreas Transplant Program, Emory Transplant Center</td>
<td>The National Kidney Foundation, Atlanta, GA</td>
</tr>
<tr>
<td>Timothy Pflederer, MD</td>
<td>Interventional Nephrologist</td>
<td>Renal Physicians Association, Peoria, IL</td>
</tr>
<tr>
<td>Jennifer Scherer, MD</td>
<td>Assistant Professor of Clinical Medicine</td>
<td>American Academy of Hospice and Palliative Medicine, Scarsdale, NY</td>
</tr>
<tr>
<td>Joseph Vassalotti, MD</td>
<td>Chief Medical Officer</td>
<td>The National Kidney Foundation, New York, NY</td>
</tr>
<tr>
<td>Daniel Weiner, MD, MS</td>
<td>Nephrologist</td>
<td>American Society of Nephrology, Boston, MA</td>
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2 MEETING OVERVIEW

This section provides an overview of the TEP meeting held on September 30, 2020. The TEP met from 1:00 to 5:00 p.m. ET via webinar.

2.1 Meeting Structure

Table 2 below provides the agenda for the meeting. The Acumen team provided background information each session and asked targeted discussion questions in Sessions 3, 4, and 5. While no formal recommendations were made, key findings of discussions from these sessions are presented at the end of each section in this report.

Table 2. TEP Meeting Agenda

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
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<tr>
<td>1</td>
<td>Introductions</td>
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<td>2</td>
<td>Cost Measure Intent and Framework</td>
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<td>Addressing Select Costs</td>
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<td>Risk Adjustment Methodology and Patient Characteristics</td>
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<td>5</td>
<td>Identifying and Capturing Progression from CKD to ESRD</td>
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<tr>
<td>6</td>
<td>Wrap Up and Next Steps</td>
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2.2 Materials and Charter

Prior to the meeting, Acumen provided panelists with the agenda, presentation slides, and Charter, including TEP member profiles. The TEP reviewed and approved the Development of Chronic Kidney Disease (CKD) and End-Stage Renal Disease (ESRD) Cost Measures for Use in Innovation Center Model TEP Charter. The CMS Measure Development Blueprint requires that each TEP have a Charter to outline the purpose of the TEP along with the level of commitment expected of the panelists.
3 SUMMARY OF PRESENTATION AND DISCUSSION

This section summarizes feedback shared by the TEP panelists, with each subsection covering one of the three main sessions of the meeting (Sessions 3, 4, and 5, as listed in the agenda in Table 2). Within each subsection, the discussion questions for the session are listed in italics, with panelists’ discussion summarized below. In certain instances where TEP members discussed issues or asked questions requiring clarification, a summary of the response from Acumen is included to provide context and accurately reflect the flow of the discussion.

3.1 Session 3: Addressing Select Costs

This session focused on discussing the services and associated costs that the measures would assess, in consideration of the goals of the KCC Model to encourage providers to coordinate care, assume patient risk, achieve later and better planned start to dialysis treatment, reduce the total cost and improve quality of care, and increase patient understanding of the kidney disease process. Given the goals of the model, the intention is for the cost measures to capture near-total cost of care, with only a limited set of possible service exclusions.

3.1.1 Summary of Presentation

Acumen provided an overview of the intent of the CKD/ESRD Cost Measures to provide a broad assessment of beneficiary costs of care. Within this framework, there may be some services that could be appropriate to exclude in limited circumstances, such as to avoid potential incentives to stint on care (e.g., transplant costs) or that could skew provider performance on the measures if they were included (e.g., very rare, high-cost services). However, service exclusions should be considered within the context of other aspects of measure construction, such as risk adjustment, which takes into account patient characteristics and their expected impact on cost. As such, the additional costs of care for comorbidities (e.g., diabetes) would already be accounted for through a higher expected cost in the measure calculation.

Acumen sought the TEP’s feedback on the following questions:

- Are there services that should be considered for exclusion from measure costs for CKD, ESRD, or both CKD and ESRD?
  - Are there services to exclude to ensure key services are not dis-incentivized?
  - Are there limited high-cost services that may be unrelated to kidney care and that the nephrologist could not reasonably influence through care/care coordination (acknowledging that the measure intent is to capture near-total cost of care, reflecting participant role in overall patient care) and that cannot be adequately accounted for by risk adjustment?
3.1.2 Panelist Discussion

Members focused on services that are an important part of the management of CKD and ESRD care such as vascular access (including catheters/fistula/graft placement). They also discussed some non-kidney related preventive and specialty services (including those more removed from nephrologist care, such as reproductive health), as well as some considerations for interdisciplinary care.

Panelists shared multiple ideas on whether to exclude services related to vascular access to ensure it is appropriately incentivized within different stages (e.g., planning, creation, maintenance, and complications). One panelist suggested exclusions in the planning stage for dialysis education and vein mapping (specifically a patient’s first vein mapping, as repeated vein mappings may be extraneous or may occur if the first is not performed by an Intersocietal Commission for the Accreditation of Vascular Laboratories [ICAVL] certified lab). Panelists shared comments regarding access creation and discussed excluding fistulas and graft placements depending on the stage of disease. For example, members discussed excluding fistulas, particularly in CKD 4 (or glomerular filtration rate [GFR] of greater than 15), to encourage upstream fistula placement and to avoid creating incentives to keep patients on a catheter. Similarly, some members also were in favor of excluding peritoneal dialysis catheters. Many members appeared to agree that tunneled dialysis catheter costs and complications related to those costs should be included. The TEP also briefly considered the bidirectional role that the other quality and utilization metrics may play in tandem use with the cost of care utilization metric. One member suggested vascular access costs may not need to be excluded given the evaluation of the optimal start utilization metric, and another member proposed there may be implications on access type given incentives in the optimal start metric to limit the proportion of patients that can have a graft.

There was also discussion about whether to exclude costs associated with maintenance and complications of existing dialysis vascular access. One panelist raised concerns that some nephrologists are less successful at properly surveilling and maintaining accesses by checking for aneurysms and other conditions. However, another panelist suggested that perhaps including these costs would incentivize nephrologists to be more engaged with examining and maintaining accesses. Another discussant suggested that catastrophic complications, such as ischemia, ischemic steal syndrome, ulceration, and hemorrhage, be excluded, so providers do not second-guess whether they should send these patients to the emergency department. One panelist indicated that there is high variance in maintenance procedures in the nephrology community and the cost measure should reflect that. Throughout, multiple panelists also emphasized the need to consider patient choice and shared decisions in vascular access creation, as patient
characteristics, age, overall living situation, and preference may contribute to the type of access creation procedure.

Panelists also briefly discussed other kidney-related costs. Supporting CMS’ inclination to remove transplant costs from the measure, many members suggested excluding transplant-related costs when possible, such as tests ordered for transplant evaluations (e.g., MRI, CT scans, stress tests), to appropriately incentivize transplant care. There was a concern that routine tests for transplant evaluation, such as cardiac catheterizations, might not be easily distinguished from catheterizations obtained for ischemic heart disease. Members also suggested excluding several other services in order to avoid discouraging them, such as parathyroidectomy in ESRD, and hospice costs and palliative care costs (especially when considering conservative care management patients).

Another area that was discussed was interdisciplinary care and the costs associated with those services, such as medical nutrition therapy with a registered dietician, some of the comprehensive diabetes care with a diabetologist, podiatry, and ophthalmology. Although the costs are relatively small compared to those for an access procedure, some panelists recommended considering these as part of the discussion on service exclusions to ensure they are properly incentivized. Panelists mentioned, on the other hand, that interdisciplinary care may lead to reduction in costs or improvement in performance on quality metrics.

Members also discussed evaluating services not based on incentives, but instead on the extent to which they are not related to kidney care. This would especially pertain to services with perceived low potential for nephrologist influence, or cases where the care is rare and very high cost. Members shared ideas on removing costs, such as pregnancy and childbirth, chemotherapy, other oncology services, mental health services, services treating substance use disorders, and HIV treatment, and also more routine or preventative care, such as vaccinations, mammography, and visual aids. Finally, members generally felt that adequate risk adjustment and Winsorization (limiting outlier costs) would mitigate risk from large outliers and would reduce the need to be overly broad with exclusions.

### 3.1.3 Key Takeaways

The key takeaways from the session and panelist discussion on service exclusions are summarized below:

- Panelists suggested vascular access exclusions in the form of excluding fistula creation (especially in CKD 4) to encourage upstream fistula placement and excluding peritoneal dialysis catheters.
- Panelists discussed other kidney-related costs, with some panelists suggesting exclusion of transplant-related costs, parathyroidectomy, and hospice. Panelists also considered
interdisciplinary care where services could enhance care coordination, reduce costs, and improve the quality of care in the long run.

- Panelists also discussed a list of non-kidney related specialty care costs (including those that may be very rare and expensive) and preventive costs.

### 3.2 Session 4: Risk Adjustment Methodology and Patient Characteristics

During this session, Acumen provided an overview of risk adjustment and the different considerations to addresses patient complexity and incentivize care coordination.

#### 3.2.1 Summary of Presentation

Acumen provided an overview of the risk adjustment model for the CKD/ESRD measure and the patient-level factors to be included in the risk adjustment strategy. This model will align with the CMS Hierarchical Condition Categories (HCC) risk adjustment model structure, which is the starting point for all measures in the KCC Model, and across other cost measures such as those used in the Merit-based Incentive Payment System (MIPS) program. The CMS HCC version 22 model, for example, accounts for thousands of diagnoses within 79 HCCs for a wide range of patient comorbidities. The CMS HCC-based risk adjustment model for ESRD patients is similar and also accounts for additional characteristics for patients who enter Medicare due to ESRD, and as such who may lack significant claims history for use in the standard HCC risk adjustment model. Both base models also include variables such as age category, interaction variables for comorbidities, disability status, and recent use of institutional long-term care. The variables in the risk adjustment model are derived from claims in a lookback period prior to the start of assessing costs. Acumen commented that a longer lookback period confers the benefit of using additional data, while a shorter lookback period makes it more likely that the beneficiaries will have enough claims history to be studied.

In cases where the base models do not appropriately account for relevant characteristics, additional covariates may be added. Additional variables may be included in the model if they are supported by clinical rationale, have empirical evidence of explanatory power over cost variation, are present at the start of care, are not redundant with other risk adjustors, and account for differences in patient characteristics with CKD versus ESRD.

Finally, Acumen emphasized that extreme outliers and costs may need an approach beyond risk adjustment to accurately reflect provider performance. For example, if a nephrologist were managing a majority of their patients well and cost efficiently but had a few patients with extremely high costs, the small number of extremely high-cost patients may result in an outsized effect on their overall cost measure score. Acumen provided two approaches for dealing with such outliers: (1) ensuring service exclusions for very rare and/or costly services, and (2) a statistical technique similar to truncation to limit extreme values, known as
Winsorization, where values below a very low percentile of the score distribution (e.g., 1st percentile) and/or above a very high percentile (e.g., 99th percentile) are re-set as equal to the value at that low or high percentile.

Acumen sought the TEP’s feedback on the following questions:

- **Are there risk adjustment variables beyond the CMS HCC models that should be added to capture patient complexity? If so, should additional variables differ for patients with CKD 4 or 5 versus ESRD?**

- **How should the risk adjustment model address patients with limited Medicare claims in the lookback period?**

- **Is Winsorization of extreme costs a sufficient mechanism to protect providers against expensive/rare outlier events and services? If not, what other methods could accomplish this?**

### 3.2.2 Panelist Discussion

Panelist comments were generally supportive of the risk adjustment methodology and the process outlined by Acumen and also included recommendations for improvements to address patient complexity. Acumen acknowledged a comment regarding the original purpose of the HCC model and its applicability to cost measures, noting that it is the basis for many existing cost measures in use in CMS programs and models, and that Acumen will test and monitor the risk adjustment model’s performance with respect to these cost measures.

Panelists shared ideas for additional risk adjustors to supplement the base model. Multiple panelists suggested adding dementia as an additional risk adjustor, citing evidence that dementia along with ischemic heart disease and cancer are three main indicators that may predict complexity in patients with chronic kidney disease. Additional populations raised include patients with diabetes, non-renal organ failure, non-renal solid organ transplant recipients (especially liver and heart), and vascular disease, though some of these may already be captured within the HCC base model. Some panelists also suggested investigating additional references, including the Charlson Comorbidity Index and academic research by authors such as Drs. Charmaine Lok, David Cull, and Cécile Couchoud.

Panelists also expressed some uncertainty related to the appearance of CKD stages 4 and 5 on claims data. Despite inaccuracies or inconsistencies sometimes associated with these diagnoses, panelists agreed that these disease stages be included in risk adjustment due to their ability to predict differences in costs. A panelist also suggested that the standard risk adjustment model may not be able to fully capture heterogeneity among patients with CKD and among patients with ESRD. Acumen noted other options for addressing this concern may involve
including an interaction term between ESRD and some or all of the other HCC indicators, and running the risk adjustment model separately for CKD versus ESRD patients.

Panelists were interested in whether social determinants of health/social risk factors are being considered in the current risk adjustment methodology. Panelists acknowledged the potential need to adjust for race, given current discussions within the nephrology community on whether estimated GFR is an accurate assessment of the actual disease stage of Black patients, given the race-based multiplier used in estimated GFR calculations. (If Black patients are incorrectly assigned a higher estimated GFR and labeled as healthier than they actually are, they might look more costly than other patients.) Other discussed social risk factors include housing insecurity, dual eligibility in both Medicare and Medicaid, income, and ZIP code characteristics as proxy indicators of socioeconomic status. Panelists were concerned that not risk adjusting for social risk factors could create an uneven playing field for performance measurement and could harm patients through cherry-picking patients that providers perceived as less costly, lemon-dropping patients they perceived as more complex, or stinting of resource-intensive care. Acumen acknowledged the comments on social risk factors and noted that the question of whether and how to explicitly include social risk factors in risk adjustment is an ongoing discussion with CMS as CMS weighs the question across measures, models, and programs.

With respect to methods to limit the influence of extreme outliers on provider performance, one panelist suggested a 2.5 percentile cutoff to apply Winsorization (e.g., below the 2.5th percentile and above the 97.5th percentile) as opposed to 1 percentile. Another panelist inquired about modeling based on a top dollar stop-loss method. Acumen noted that, depending on the impact of service exclusions on reducing high-cost episodes, these various methods can be explored.

### 3.2.3 Key Takeaways

The key takeaways from the session and panelist discussion on risk adjustment methodology are summarized below:

- Some panelists suggested additional patient characteristics to supplement the base HCC models, particularly dementia. Other salient clinical characteristics include diabetes, non-renal organ failure, non-renal solid organ transplant recipients, and vascular disease, though some may already be captured within the HCC base model.

- Despite uncertainty related to the appearance of CKD stages 4 and 5 on claims data, panelists felt that these disease stages should still be included in risk adjustment to predict differences in costs.

- In response to a comment on whether risk adjustment alone for patients with CKD vs. ESRD is sufficient, Acumen shared two additional options to address the heterogeneity
between the two distinct populations: adding an interaction term between ESRD and all of the other HCC indicators in the same model, or having two separate risk adjustment models for patients with CKD versus ESRD.

• Panelists provided feedback on social risk factors and their impact on health outcomes, including factors such as race, housing insecurity, dual eligibility in both Medicare and Medicaid, income, and ZIP code-level community characteristics.

• Panelists shared ideas on addressing high-cost outliers, discussing Winsorization (including at various thresholds, such as the top and bottom 2.5 percent of the distribution) and a top dollar stop-loss method.

3.3 Session 5: Identifying and Capturing Progression from CKD to ESRD

During this session, Acumen discussed opportunities for improvement in care coordination during progression from CKD to ESRD, and identification of this progression via claims data. The panel also discussed mechanisms to incentivize better transition and later starts to dialysis in measure specifications.

3.3.1 Summary of Presentation

Acumen outlined how the cost measure could be used as an opportunity to improve care coordination across the continuum of kidney disease and to encourage efforts to slow the progression to ESRD, in line with overall goals of the KCC Model.

Acumen highlighted that although the progression from CKD to ESRD is not preventable in many cases, delaying this progression or having a smoother progression from CKD to ESRD can reduce costs and adverse outcomes. The cost of ESRD is greater for CKD, and incorporating progression into the cost measure could incentivize providers to smooth or slow this progression. There are several opportunities for better care coordination through reduction of complications related to other comorbidities, diet modification, and controlled blood pressure. ESRD outcomes can also be impacted by targeted monitoring of these comorbidities and upstream interventions that can improve how dialysis is initiated.

Acumen presented empirical analysis results on costs associated with disease progression and highlighted the large increase in mean and median costs around the transition period from CKD to ESRD. Acumen also discussed scenarios involving inappropriately accelerating patients to dialysis near the start of the next performance year, whether through attempts to intentionally “game” the cost measure or unintentionally based on the difficulty of determining a “best” time to begin dialysis. This could cause patients to be assigned as an ESRD patient for risk adjustment purposes in the next performance period, thereby increasing expected costs and appearing more cost efficient. Acumen highlighted one potential approach to address this issue, which would be
to apply a historical risk adjustor that uses clinical data from one or more prior performance years to hold providers accountable for the speed of progression and reward providers who slow the disease progression compared to the expected speed based on the patient’s clinical characteristics. Determining how far back to obtain historical progression data in this approach needs to weigh tradeoffs between how long providers should be held accountable for progression, statistical noise, and data availability.

Acumen sought the TEP’s feedback on the following questions:

- **How can we identify kidney disease progression using claims data?**

- **How can the appropriate incentives to slow progression be introduced into the measure specifications, while avoiding concerns of inappropriately acceleration to dialysis? To what extent is it important to hold a provider accountable for a longer period of progression, acknowledging tradeoffs of data limitations, assumed risk, and strength of incentive?**

### 3.3.2 Panelist Discussion

Acumen asked the panelists for thoughts regarding identification of the period of progression using claims data. Panelists expressed concerns regarding the limited ability to monitor disease progression or determine appropriate timing for dialysis from claims data, asserting that detecting sufficient granularity in CKD staging to get an accurate assessment of progression risk could be challenging. Some panelists noted the importance of additional medical data beyond claims data. In addition to creatinine levels or estimated GFR, which a panelist noted would be available on the CMS Medical Evidence Report 2728, panelists particularly emphasized access to information on albuminuria and proteinuria. Other suggestions for assessing kidney function outside of claims data included looking into metabolic acidosis, secondary hyperparathyroidism, refractory fluid overload, need for erythropoiesis (EPO) stimulating agents (ESAs), or late stage CKD complications as a way to track disease progression. Another viewpoint expressed how CMS might want to use this opportunity to use newer technologies in partnership with nephrologists to monitor patient data in real time for a better understanding of disease progression. Acumen acknowledged panelist feedback and noted that the cost measures will be built using Parts A and B claims data. Suggestions for other data sources will be reviewed, though integrating additional data sources can be challenging to reliably obtain and reconcile with claims data.

Acumen discussed approaches to account for CKD progression and incentivize delaying progression while avoiding concerns of inappropriately accelerating patients to dialysis. Panelists agreed that dialysis initiation needs to be a result of joint decision-making between the nephrologist and patient. While explicit attempts to incentivize slowed progression could align
patient wishes and patient care incentives with provider financial incentives, panelists also pointed out that, depending on patient preferences, it could similarly introduce the opposite incentive where providers go against patient wishes.

Several panelists expressed that, without appropriate patient information not available in claims data, it would be difficult to capture and implement incentives around progression. Some panelists shared feedback against implementing explicit incentives (such as the historical risk adjustor example), with some asserting that the existing incentives put in place by the KCF Option itself (e.g., paying more for CKD 4 and 5 and less for ESRD visits) are enough to create appropriate incentives. Other panelists did not raise concerns about explicitly holding providers accountable for progression, acknowledging the potential holes in the standard risk adjustment model that might allow for intentional inappropriate acceleration. Another panelist suggested adjusting the length of time for a potential historical risk adjustor by shortening from one year (e.g., six or four months prior) for patients with CKD 5, as the risk of incurring ESRD costs is greater than for CKD 4 patients.

### 3.3.3 Key Takeaways

The key takeaways from the session and panelist discussion on identifying and capturing disease progression are summarized below:

- Panelists acknowledged challenges with relying completely on claims data to identify progression, as it is not able to capture important markers such as estimated GFR, creatinine, and albuminuria and proteinuria.
- Panelists agreed that dialysis initiation needs to be a result of joint decision-making, and panelists emphasized that incentives to slow CKD progression should not lead providers to go against patient wishes.
- Many panelists shared feedback that it would be challenging to meaningfully incorporate explicit incentives to slow disease progression within the measures (e.g., expressing concerns with the ability of a historical risk adjustor to introduce the appropriate intended incentives).
4 CONCLUSIONS AND NEXT STEPS

The feedback provided by this TEP will provide Acumen guidance during the cost measure development regarding potential service exclusions, risk adjustment, and identifying progression. The remainder of this section discusses conclusions and next steps for incorporating the input from each session of the TEP meeting.

4.1 Session 3: Addressing Select Costs

Many panelists were in favor of excluding vascular access in the form of fistula creation (especially in CKD 4 patients), as well as excluding peritoneal dialysis catheters. Panelists also discussed other kidney-related costs to exclude, such as transplant-related costs, parathyroidectomy, and hospice. Interdisciplinary care to enhance care coordination, non-kidney related specialty care costs, and preventive costs were also discussed. We will discuss the feasibility of this input with CMS as we work to define potential service exclusions.

4.2 Session 4: Risk Adjustment Methodology and Patient Characteristics

Panelists suggested specific patient characteristics to ensure the risk adjustment model captures, including dementia, diabetes, non-renal organ failure, non-renal solid organ transplant recipients, and vascular disease, though some may already be captured within the HCC base model. Panelists thought that CKD 4 and 5 should be risk adjusted, despite some challenges differentiating staging in claims data, and that it is important to ensure that the model adequately addresses the differences between the CKD and ESRD patient populations. We appreciate the discussion regarding social risk factors, and Acumen will continue to discuss this topic with CMS.

4.3 Session 5: Identifying and Capturing Progression from CKD to ESRD

We appreciate the feedback received from panelists regarding the challenges of using claims data to identify progression, and this input will be taken into consideration as we work with CMS to define the measures. Panelists agreed that dialysis initiation should be a result of joint decision-making with patients, and many expressed challenges with introducing explicit incentives to slow progression within the measures.