Design of the ESRD PPS: *Technical Expert Panel*

Acumen, LLC
December 10-11, 2020

TEP Agenda

Thursday, December 10, 2020		
Session	**Time**	**Topic**
Session 1	2:00 PM – 2:20 PM	Introductions and Goals for this TEP
Session 2	2:20 PM – 3:50 PM	Adult Case-Mix Adjustment
	3:50 PM – 4:00 PM	Break
Session 3	4:00 PM – 4:50 PM	Pediatric Case-Mix Adjustment
	4:50 PM – 5:00 PM	Informal Discussion
Friday, December 11, 2020		
Session 4	2:00 PM – 3:10 PM	Low-Volume Payment Adjustment (LVPA)
	3:10 PM - 3:20 PM	Break
Session 5	3:20 PM – 3:55 PM	Acute Kidney Injury (AKI) Payment System (PS)
Session 6	3:55 PM – 4:40 PM	Cost Report Revisions
Session 7	4:40 PM – 5:00 PM	Open Discussion

Outline

Sessions
1. Introductions and Goals for this TEP
2. Adult Case-Mix Adjustment
3. Pediatric Case-Mix Adjustment
4. Low-Volume Payment Adjustment (LVPA)
5. Acute Kidney Injury (AKI) Payment System (PS)
6. Cost Report Revisions
7. Open Discussion

Session 1 Outline

Session Objective

- Introduce TEP participants, project team, and today's goals

Session Topics

- Introduce panelists and project team
- Explain project goals and scope of today's TEP

Session Time

- 20 minutes

Welcome

- CMS has contracted with Acumen, LLC
  - To maintain the End Stage Renal Disease Prospective Payment System (ESRD PPS) and Acute Kidney Injury Payment System (AKI PS) and
  - To develop methodologies for potential refinements to these systems
- Acumen is convening this TEP to gather feedback on methodological approaches to improve various aspects of the ESRD PPS
  - These refinements incorporate input received from the last two TEPs and other stakeholders
- Introduction
  - Panelists
  - Project team representatives

Panelists

- **Brendan Bowman, MD**, Associate Professor, Division of Nephrology, University of Virginia
- **Eileen Brewer, MD**, Medical Director, Renal Transplant Program, Texas Children's Hospital
- **Johnie Flotte, RN**, Vice President, Clinical Services, US Renal Care
- **Joseph Flynn, MD, MS,** Chief, Division of Nephrology, Seattle Children's Hospital
- **Derek Forfang**, Kidney Patient Advocate and Public Policy Committee Chair, National Kidney Foundation
- **J. Michael Guffey**, Treasurer, Dialysis Patient Citizens
- **Alice Hellebrand, MSN, RN, CNN**, Chief Nursing Officer/Senior Vice President, Dialyze Direct
- **Andrew Howard, MD, FACP**, Nephrologist, The National Forum of ESRD Networks
- **Jeffrey Hymes, MD**, Senior Vice President, Clinical and Scientific Affairs, Fresenius Medical Care
- **Mahesh Krishnan, MD, MPH, MBA, FASN**, Group Vice President, Research and Development, DaVita

Panelists

- **Keith Lester, MA**, Senior Vice President, Home Therapies and Care Management, Satellite Healthcare, Inc.
- **Chris Lovell, RN, MSN, CNN**, Director, Medical Informatics and Systems, Dialysis Clinics, Inc.
- **Gayle Nemecek, MBA, RN, BSN, CNN,** Chief Operating Officer, Centers for Dialysis Care
- **Alicia Neu, MD,** Medical Director, Pediatric Dialysis and Kidney Transplantation, Johns Hopkins Children's Center
- **Rebecca Schmidt, DO,** Clinical Nephrologist and Professor of Medicine, West Virginia University School of Medicine
- **Suzanne Watnick, MD,** Chief Medical Officer, Northwest Kidney Centers
- **Julie Williams, BSA**, Dialysis and Nephrology Administrator, Branson Nephrology & Dialysis
- **Jay Wish, MD**, Professor of Clinical Medicine, Indiana University School of Medicine
- **LeAnne Zumwalt, CPA**, Group Vice President, Government Affairs and Purchasing, DaVita

Project Team in Attendance

- Moderator
  - David Moore
- Active Participants/Session Leads
  - Kyle Buika
  - Myrna Cozen
  - Kevin Erickson
  - Bruno Garcia
  - Eugene Lin
  - Sriniketh Nagavarapu
  - William Vogt

Project Team in Attendance

- Additional Team Members
  - Rishav Bashyal
  - Andrew Etteldorf
  - Can Feng
  - Zhihang Lin
  - Taishu McLawhorn
  - Suraj Pant
  - Callie Richard
  - Elen Shrestha
  - Dashi Xu

Acumen Is Developing Methodologies to Refine the ESRD PPS

- ESRD PPS pays providers for 13 or 14 hemodialysis (or the equivalent peritoneal dialysis) sessions per month, either in the facility or at home
  - Includes adjustment for patient-level characteristics, facility-level characteristics, and outliers
- Stakeholders have voiced concerns with aspects of the ESRD PPS through public comments, the previous TEPs, and other channels
- Previous TEPs, held in 2018 and 2019, explored potential changes to case-mix adjustment and to claims and cost reports to support those changes to improve the accuracy of payment adjustment
- This TEP builds on those discussions and presents innovative methodological approaches that address stakeholder concerns and may lead to improvements in the ESRD PPS overall

Specific Goals of Today's TEP

- *Session 2*: Examine refinements to a methodological approach to case-mix adjustment and discuss strategies for selecting case-mix adjusters
- *Session 3:* Examine options for determining pediatric payment adjustment to better reflect costs of pediatric dialysis
- *Session 4:* Review alternative Low Volume Payment Adjustment (LVPA) methodology designed to improve access to care in isolated or resource poor regions
- *Session 5:* Review cost and utilization of AKI related dialysis services since policy change of 2017 and assess the accuracy of reported data
- *Session 6:* Review and consider changes to cost reports to better differentiate composite rate costs and support a new case-mix adjustment model
- *Session 7:* Open discussion

Each Session Follows a Similar Format

- Describe how the topic is handled in the current ESRD PPS
- Summarize stakeholder and other concerns relative to the topic
- Present new approaches to refine the ESRD PPS to address concerns in a manner consistent with legislative requirements and policy goals
- Obtain feedback from TEP members through a series of discussion questions
- Additional notes:
  - The overall budget allocated to the ESRD PPS will not be discussed by this TEP, as such discussion is outside Acumen's scope of work
  - The final session is an open discussion period for both TEP members and observers to provide comments on topics discussed during the TEP

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Session 2 Outline

Session Objectives

- Solicit panelist feedback on a refined case-mix adjustment model to better match payment to resource use
- Discuss strategies for identifying new case-mix adjusters

Session Topics

- Review structure of the current payment equation(s)
- Present refined case-mix adjustment model
- Present strategies for selecting case-mix adjusters
- Discuss potential data sources for case-mix adjusters

Session Time

- 1 hour 30 minutes

Goals of Refining the Case-Mix Adjustment Model

- Protect access to care for most costly beneficiaries by ensuring PPS payment reflects facilities' costs
- Incorporate stakeholder input from TEP panelists
- Better account for variation in per-treatment dialysis costs
- Be more intuitive for providers
- Improve statistical coherency
- Reflect recent data and variation in costs of practice

Statutory Requirement for Implementing Case-Mix Adjustment in ESRD PPS

- Section 1881(b)(14) of Social Security Act requires a bundled payment system for ESRD PPS
  - Bundle is comprised of all essential renal dialysis services, including drugs, labs, supplies and capital costs related to the dialysis treatment
  - ESRD PPS base rate is $253.13 in 2021 ESRD PPS Final Rule
  - Base rate required to include a payment adjustment based on case mix to account for patient comorbidities

Current Session Builds Upon Discussions from Previous TEPs

- December 2018 TEP
  - Confirmed exhaustive components of dialysis treatment costs
    - Capital, Labor, Administrative, Drugs, Labs, Supplies
  - Discussed limitations in measuring variation in per-treatment cost
    - Cost components (e.g. labor) are reported at the facility level on cost reports and not itemized on claims
    - Difficult for facilities to allocate/track cost component utilization across treatments
- December 2019 TEP
  - Examined alternative approaches to measuring the cost of a dialysis treatment with existing data
  - Discussed merits of a single equation case-mix adjustment model relative to the current ESRD PPS model

72x Claims Will Begin Collecting Duration of Dialysis Treatment In 2021

- Following the 2019 ESRD PPS TEP, a Change Request was drafted to add a new value code to the 72x claim
- Cumulative duration of dialysis over all treatments on a claim, in minutes, will be collected as a single line item
- A new value code for the line item was granted by the National Uniform Billing Committee (NUBC) on April 15, 2020
- The Change Request was submitted for clearance and has been approved
  - This change will be implemented in 2021

ESRD PPS Payments Intended to Reflect Total Treatment Costs

- Total treatment costs consist of composite rate (CR) costs and formerly separately billable (FSB) costs
  - CR services reported at the facility level on cost reports
    - The "bundle" prior to 2011
    - Capital, labor, and administrative costs plus certain drugs, labs, and supplies
    - Examples: direct patient care labor, dialysis machines, dialysate, heparin, routinely used laboratory tests
  - FSB services itemized on 72x claims
    - Added to the "bundle" in 2011, previously separately paid
    - Injectable drugs and their oral equivalents plus certain labs and supplies
    - Examples: erythropoietin-stimulating agents (ESAs) and supplies used to administer FSB drugs
- CR services constitute ~90% of a treatment's cost

Current Model Uses Two Equations

1. Facility-level equation for Composite Rate (CR) costs
   - Estimates the effects of case-mix factors on CR cost per-treatment
   - CR costs *per-treatment* calculated from cost reports
2. Patient-level equation for Formerly Separately Billable (FSB) costs
   - Estimates the effects of case-mix factors on FSB cost per-treatment for each provider-beneficiary month
   - FSB costs calculated using reported units from 72x claims

- Case-mix factors *in the current model* include:
  - Age categories, BSA, low BMI indicator, onset status, comorbidities (pericarditis, GI tract bleeding, hereditary hemolytic or sickle cell anemia, myelodysplastic syndrome)
  - Facility adjusters: low volume status and rural status

How Case-Mix Adjustment is Currently Used

- Final case-mix adjusters for adults are the weighted average of estimated coefficients from these two equations
  - Weights are the fraction of costs that are composite rate versus formerly separately billable
- Regression equations and weighted averages are calculated using 2012-2013 claims and cost report data
- Current case-mix adjusters were implemented in the CY2016 rule and have been in effect since January 2016

Stakeholder Concerns Regarding Current Model

- Stakeholder critiques of two-equation methodology
  - Difficult to infer patient-level adjustments from facility-level data
  - Doubts about magnitude/significance of age, BMI, BSA coefficients
  - Question the validity of taking weighted average of estimates across the two equations when the joint distribution of composite rate and formerly separately billable costs is not accounted for
- Logistical challenges obtaining accurate comorbidity data
  - Not routinely reported in 72x claims
  - Diagnoses contained in medical records may not be readily available to dialysis facility
  - Operational costs of obtaining data may exceed value of the adjustment
- Costs unique to pediatric dialysis may not be adequately represented in cost reports and therefore not accounted for in pediatric adjustments

Goals of a Single Equation Model

- Simplify the model
- Permit straightforward measurement of the effects of case mix on cost
- Permit straightforward control for facility-level characteristics/confounders
  - E.g. Volume of services, wages, hospital setting
- Create a model also useful in LVPA analysis
  - Determine minimum efficient scale
  - Determine size of cost penalty (and thus the appropriate subsidy) for low volume facilities

Considerations for a Single Equation Model

- Composite rate items are reported on facility level cost reports
  - Stratified by modality, but granularity is limited
  - Makes identifying patient-level variation in composite rate costs challenging
  - Formerly separately billable costs are on an indivdiual level
- Case-mix adjusters are reported on 72x claims for individuals
  - Facilities may have difficulties in ascertaining certain adjusters
  - May not agree with other sources of comorbidity information
- Facilities perform multiple types of treatment, making the assignment of costs and measurement of overall volume difficult
  - In-facility HD
  - Home HD and PD
  - Training

Alternative Method for the Single Equation Model

- An observation in the model is a beneficiary-facility-month
- Costs per beneficiary-facility-month
  - Formerly separately billable costs are calculated from claims charges and facility-level Cost-to-Charge Ratios (CCRs)
  - Composite rate costs for each beneficiary-facility-month are calculated by allocating annual facility costs (less formerly separately billable costs) to the beneficiary-facility-month level using time on machine (duration of all treatments)
  - Costs for a beneficiary-facility-month are the sum of these two
- For some modalities and settings, time on machine is not available *(and/or meaningful)* and must be imputed.
- Finally, a regression is run of beneficiary-facility-month costs on case-mix adjusters and facility characteristics

One-equation Model Addresses Methodological Problems

- One equation used to estimate the effects of case-mix factors and low-volume status on total costs per-treatment
- Estimated coefficients from the one-equation model adjust payments for patient case mix directly, with no weighting
  - Analogous to other payment systems including Home Health, Inpatient Rehabilitation Facility, Skilled Nursing Facility, and Inpatient Psychiatric Facility PPS
- Fundamental problem: How to obtain meaningful data on variation in composite rate (CR) costs?
  - CR costs include capital, labor, administrative, drug, lab and supply costs
  - Only reported at the facility level

Calculating Cost Per-Treatment

Facility A's costs (scaled to 72x claims)

Composite Rate (CR) Cost	Formerly Separately Billable (FSB) Drug/Lab/Supply Cost
Distribute through treatment duration ↓	Convert through facility-level Cost-to-Charge Ratio (modality specific) ↓
CR Cost for beneficiary-month 1	FSB Drug/Lab/Supply Cost for beneficiary-month 1
CR Cost for beneficiary-month 2	FSB Drug/Lab/Supply Cost for beneficiary-month 2
CR Cost for beneficiary-month 3	FSB Drug/Lab/Supply Cost for beneficiary-month 3
…	…
…	…
CR Cost for beneficiary-month N	FSB Drug/Lab/Supply Cost for beneficiary-month N

Costs for each beneficiary-month at Facility A

Longer Dialysis Treatments Have Higher Resource Use on Average

- The longer a dialysis treatment, the more capital and labor resources are dedicated to the treatment as a proportion of the facility's total capital and labor resource use
- Longer treatments also require more variable supplies (e.g. dialysate) on average
- All else equal, when a dialysis session lasts longer, it will have higher composite rate (CR) costs
- Cost reports can be used to derive cost per minute for different types of patients
- This can be combined with data on treatment duration to infer a portion of differences in CR cost across beneficiary-facility-months

Focus on the Primary Modalities

- Only focus on three modalities (in-center HD, home HD, and home PD) that represent 99.5% of all treatments in claims

Treatment counts by modality, 2018-2019 data

Modality	HD-eq. Treatments	%
In-center HD	**79,201,573**	**87.4%**
Home PD	**8,616,054**	**9.5%**
Home HD	**2,324,393**	**2.6%**
Training PD	189,169	0.2%
In-center UF	144,887	0.2%
Training HD	107,320	0.1%
In-center PD	1,795	0.0%
Home UF	6	0.0%
Training UF	1	0.0%

Construct Components of Treatment-Level Total Cost

- For each facility:
  - Obtain total dialysis minutes for in-facility and home HD
    - From 72x claim treatment counts and HD minutes from CROWNWeb
  - Impute total dialysis minutes for home PD
    - From 72x claim treatment counts and national average HD minute per-treatment
  - Obtain total dialysis minutes across all three modalities
- For each beneficiary-facility-month with in-facility HD, home HD, or home PD:
  - CR cost = facility-level total CR cost / facility's total dialysis minutes * total dialysis minutes for the beneficiary-facility-month
- Use formerly separately billable (FSB) charges on claims and Cost-to-Charge Ratios (CCRs) specific to FSB categories to calculate FSB costs

Identifying Duration for Each Treatment

- Impute HD duration when exact value is missing
  - HD duration per-treatment values matched from CROWNWeb according to priority in this table

Completeness of CROWNWeb treatment duration, 2019 data

Matching category	In-center HD	Home HD
Same beneficiary-facility-month	96.6%	86.7%
Same beneficiary-month at other facilities	0.6%	0.6%
Same beneficiary-facility in other months	1.6%	7.9%
Same beneficiary and other facility-months	0.2%	1.2%
Other	1.1%	3.5%

  - When no match is available (and always for home PD), use national average HD duration per-treatment (220.6 [220.3] minutes per-treatment in 2018 [2019])
- Conceptually this is equivalent to the following: Within each facility
  - Assume same cost per minute across modalities (HD vs. PD)
  - HD patients have variations in composite rate (CR) cost per-treatment due to variations in treatment durations
  - PD patients all have same CR cost per-treatment, there is always variation in itemized formerly separately billable (FSB) costs

Average Treatment Duration for Current Case-Mix Adjusters

Treatment duration by patient groups, 2018-2019 data

Beneficiary characteristics	Average minute per-treatment
Overall	**220**
Adults	**220**
Age Category: 18-44	226
Age Category: 45-59	227
Age Category: 60-69	221
Age Category: 70-79	216
Age Category: >=80	209
BSA Category: Q1	204
BSA Category: Q2	213
BSA Category: Q3	219
BSA Category: Q4	226
BSA Category: Q5	240
Low BMI: Yes	202
Low BMI: No	221
Onset: Yes	220
Onset: No	220
Comorbidity -- Gastro-intestinal tract bleeding (acute): Yes	219
Comorbidity -- Gastro-intestinal tract bleeding (acute): No	220
Comorbidity -- Pericarditis (acute): Yes	225
Comorbidity -- Pericarditis (acute): No	220
Comorbidity -- Hereditary hemolytic or sickle cell anemia (chronic): Yes	217
Comorbidity -- Hereditary hemolytic or sickle cell anemia (chronic): No	220
Comorbidity -- Myelodysplastic syndrome (chronic): Yes	213
Comorbidity -- Myelodysplastic syndrome (chronic): No	220

Construct Treatment-Level Total Cost From Constructed Components

- Add CR cost to FSB cost to obtain total cost for the provider-beneficiary-month
- Beneficiary-facility-month level cost per-treatment = total cost / total treatment counts in the month
- Goal of case-mix adjustment is to identify magnitude of factors that best reflect variation in this measure of total cost per-treatment

Treatment Duration Reported on Claims Does Not Directly Affect Payment

- Dialysis treatment duration would be used solely to apportion composite rate costs to the patient level for use as the *dependent variable* in *estimation of* a refined model
- Dialysis session run time would not be included as a case-mix adjuster
- Treatment duration as reported in claims during any given payment year would have no direct effect on the ESRD PPS payments received by facilities in that payment year

Cost Per-Treatment by Patient Groups

Median Cost per-Treatment by patient groups (refined method) 2018-2019 data

(Scaled relative to median of all adults)

Beneficiary characteristics	In-center HD	Home HD	Home PD
Age Category: 18-44	1.038	0.986	1.011
Age Category: 45-59	1.025	0.987	1.002
Age Category: 60-69	0.999	0.993	0.999
Age Category: 70-79	0.984	1.038	0.991
Age Category: >=80	0.957	1.153	0.992
BSA Category: Q1	0.934	1.001	1.011
BSA Category: Q2	0.966	1.008	1.004
BSA Category: Q3	0.993	0.989	0.998
BSA Category: Q4	1.023	0.992	0.996
BSA Category: Q5	1.087	1.007	0.994
Low BMI	0.916	1.021	0.969
Onset	1.036	1.340	0.993
Comorbidity: Gastro-intestinal tract bleeding (acute)	1.062	1.016	1.050
Comorbidity: Pericarditis (acute)	1.077	1.219	0.981
Comorbidity: Hereditary hemolytic or sickle cell anemia (chronic)	1.099	1.041	1.244
Comorbidity: Myelodysplastic syndrome (chronic)	1.055	1.125	1.111

Changes to Facility Control Variables

- Determining Facility Treatment Volume
  - Previous model used categorical variables for facility volume ranges and a categorical variable for LVPA
  - We propose using the log and log-squared of facility total treatment duration
  - Advantages:
    - No longer uses pre-determined, arbitrary intervals
    - Allow data to determine a minimum efficient scale for use in LVPA
    - Allow data to determine how much costs fall as facility volume increases
    - Improved fit
- Treatment of Hospital Wage Index
  - We propose using as a control variable rather than having its effect imposed via a pre-set formula
  - Permits the data to determine how much weight to give the (possibly mismeasured) wage index

Change To Control Variables

- Updated list of facility control variables
- Motivation: economies of scale based on facilities' aggregate treatment duration (minutes)

Current Control Variables
Low Volume Rural
Ownership: Large dialysis organization Ownership: Regional chain Ownership: Independent (ref) Ownership: Unknown
Hospital-Based
Facility Size: <4,000 treatments, not low volume eligible Facility Size: 4,000 to 5,000 treatments Facility Size: 5,000 to 9,999 treatments Facility Size: >10,000 treatments (ref)

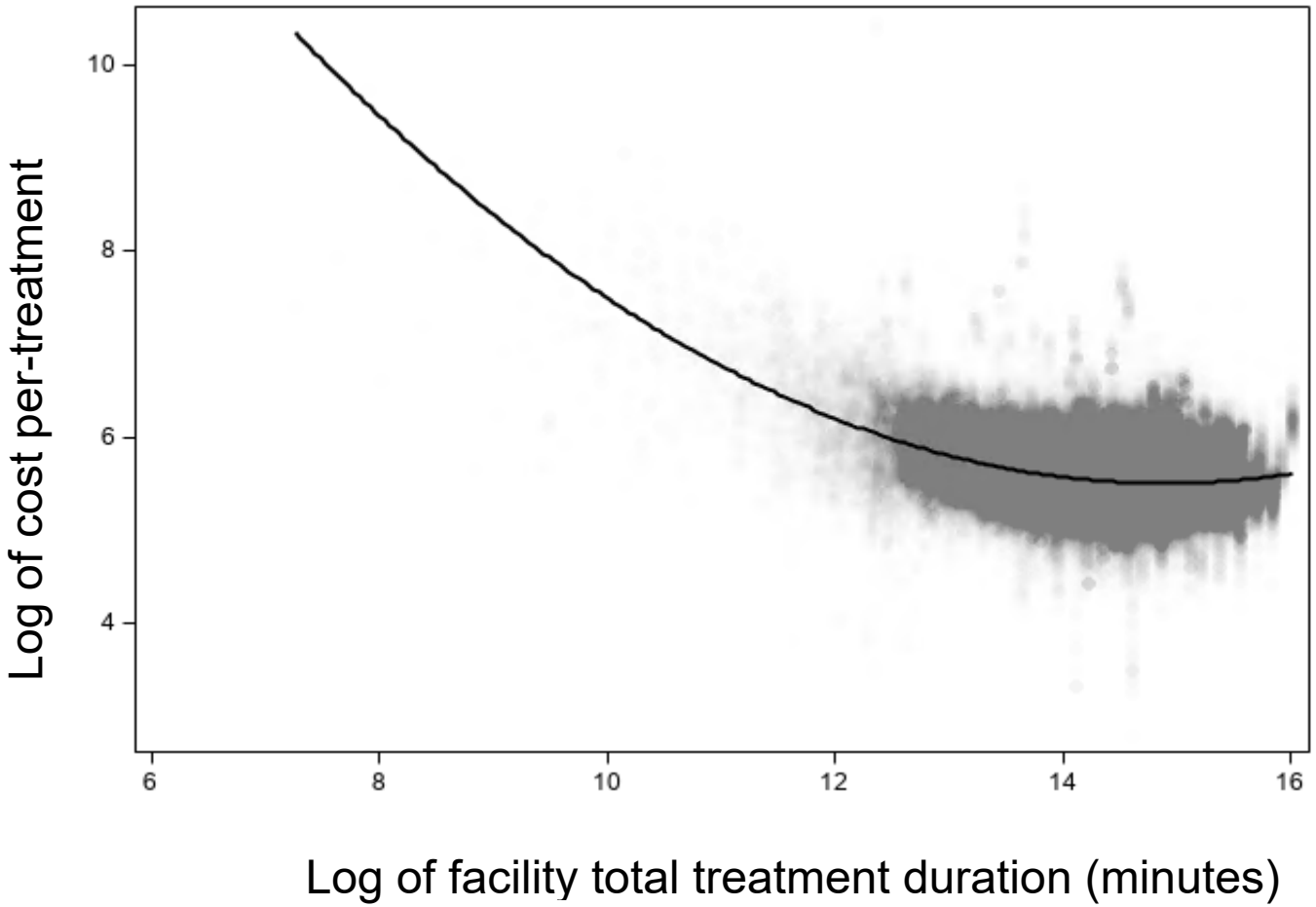
→

Alternative Control Variables
Ownership: Large dialysis organization Ownership: Regional chain Ownership: Independent (ref) Ownership: Unknown
Hospital-Based
Log of Facility Total Treatment Duration Squared Log of Facility Total Treatment Duration
Facility Wage Index

- The Low-Volume Payment Adjustment (LVPA) and rural adjustment will be discussed in Session 4

Larger Facility Total Treatment Duration Correlated with Lower Per-Treatment Costs

- Log of facility total treatment minutes and its squared term fit well with the shape of cost per-treatment



Including New Facility Controls Improves Model Fit; Minimal Change to Case-Mix Adjusters

Case-Mix Group	Adjuster	Refined one-equation (before changes to control variables)	Refined one-equation (after changes to control variables)
	Adjusted R-Squared	*0.237*	*0.267*
Adult Age Categories	18 - 44	1.046 ****	1.04 ****
	45 - 59	1.028 ****	1.024 ****
	60 - 69	1.013 ****	1.01 ****
	70 - 79 (reference)	1.000	1.000
	>= 80	0.982 ****	0.985 ****
Other Metrics	Onset	1.035 ****	1.032 ****
	BSA (per 0.1 m2)	1.017 ****	1.017 ****
	Underweight (BMI < 18.5)	0.987 ****	0.988 ****
Original Comorbidities	Pericarditis (acute)	1.028 ****	1.03 ****
	Gastro-intestinal tract bleeding (acute)	1.055 ****	1.059 ****
	Hereditary hemolytic or sickle cell anemia (chronic)	1.128 ****	1.128 ****
	Myelodysplastic syndrome (chronic)	1.06 ****	1.063 ****
Facility	Low Volume	1.311 ****	
	Rural	1.005 ****	
	Log of Facility Total Treatment Duration		0.106 ****
	Squared Log of Facility Total Treatment Duration		1.077 ****

* Not all control variables are shown in this table

Alternative Case-Mix Adjusters

- Stakeholders have long argued for changes to the ESRD PPS case-mix adjusters
  - Citing duplicitous/counteracting adjusters
  - Citing difficulty in obtaining diagnosis information necessary for reporting comorbidities
- Goal is to select a set reasonable number of case-mix adjusters that account for a significant portion of the variance of total costs, subject to the following criteria:
  - *Facilities are likely aware if a beneficiary has the comorbidity/condition*
  - *Intuitive clinical and observable relationships to dialysis treatment costs*
  - *It is not something that can be easily manipulated by facilities.*
    - Two things seem important for ensuring this: (1) It is not too ambiguous; (2) It does not overlap with treatment decisions.
      - For example, if a facility gives an injectable vitamin D analogue, a diagnosis of vitamin D deficiency or secondary hyperparathyroidism may not be something we want to include since this could be claimed every time the medicine is administered

Case-Mix Adjusters Can be Obtained from a Variety of Potential Data Sources

- 72x Claims
- Medicare claims from other settings
- CMS Form 2728 – ESRD Medical Evidence Report

Using 72x Claims to Identify Case-Mix Adjusters

- Pros:
  - data are easily attainable by dialysis facilities and regularly updated
- Cons:
  - Current reporting in 72x claims is very incomplete (as we'll show in a few slides)
    - Incomplete reporting will lead to incorrect estimation of case-mix adjusters
  - Reporting may increase provider reporting burden
- Reporting behavior in 72x claims *may* improve once a new case-mix model is implemented

Using All Medicare Claims to Identify Case-Mix Adjusters

- Pros:
  - Facilitates accurate, more complete reporting of comorbidities
  - Reduced burden on dialysis facilities to diagnose and report comorbidities
- Cons:
  - Providers do not always have access to data from other Medicare settings
  - May slow provider's knowledge of exact payment amounts for claims

Using Comorbidities on the CMS 2728 Medical Evidence Form to Identify Case-Mix Adjusters

- Pros:
  - Includes detailed information on selected comorbidities and other patient characteristics relevant to dialysis treatment costs that may not appear in claims and are unlikely to change over time
    - E.g. ambulatory status, institutionalization, needing assistance with daily activities
  - Low reporting burden if no changes to 2728 form
- Cons:
  - Data could become outdated. Only current at initiation of 72x dialysis treatment;
  - Questionable reliability of data
  - Increased reporting burden if the 2728 form is updated by providers on a regular interval
    - Would the additional provider burden be acceptable?
- Are there conditions from the 2728 form that providers would prefer to report on claims?

Deriving A List of *Key* Conditions For Demonstration from Medicare Claims

To test the availability of relevant case-mix adjusters in claims, we did the following:

- For each provider-beneficiary-month, construct Clinical Classifications Software Refined (CCSR) categories based on diagnosis codes from all Medicare claims from 6 months prior
- Flag CCSR categories that have high frequency, or are associated with higher cost per-treatment
- Clinical review of the full CCSR list resulted in select conditions that are likely related to high cost and are reasonably trackable *by dialysis providers* (163 CCSR conditions)
- Clinicians classify selected CCSR categories into broader condition groups (29 groups)

Current Reporting on 72x Claims Is Incomplete

Frequency of example conditions from claim diagnoses, 2018-2019 provider-bene-months

Example list of conditions	Frequency across all Medicare claims from 6 months prior	Frequency on 72x claims	72x claims reporting completeness (all claims as ref.)
Disorder of RBC production and hematologic malignancy	96.3%	85.0%	88.3%
Malnutrition	89.8%	71.4%	79.4%
Diabetes	67.4%	9.0%	13.4%
Coronary Artery Disease	43.9%	1.0%	2.2%
Heart failure	42.2%	1.7%	4.1%
Cardiac arrhythmia	34.6%	0.7%	2.1%
Acute infections	34.5%	1.2%	3.4%
Hearing or visual loss	33.4%	0.4%	1.3%
Peripheral vascular disease	29.1%	0.5%	1.6%
Chronic obstructive pulmonary disease	20.6%	0.5%	2.4%
Other acute conditions	17.0%	0.6%	3.7%
Decreased mobility and associated complications	16.7%	0.2%	1.3%
Coagulopathy	14.3%	1.6%	11.2%
Cerebrovascular disease	10.4%	0.2%	1.8%
Peptic ulcer disease and Gi bleed	10.0%	0.3%	2.7%
Cancer	9.0%	0.3%	3.3%
Fracture	7.6%	0.1%	0.9%
Prior transplant	6.1%	0.1%	1.8%
Substance and alcohol abuse	5.3%	0.1%	2.7%
Hepatitis C	4.5%	0.2%	5.1%
Psychosis and severe depression	4.3%	0.1%	2.4%
Pericardial disease	3.7%	0.1%	1.4%
Rheumatologic conditions	3.5%	0.2%	4.5%
Past infected access	3.1%	0.2%	7.8%
HIV	1.7%	0.1%	5.3%
Hepatitis B	1.4%	0.2%	12.6%
Liver cirrhosis	1.1%	0.0%	1.0%
Neurocognitive disorders	1.0%	0.0%	1.4%
Pregnancy	0.2%	0.0%	5.2%

Medical Information from 2728 Form Is Only Collected at Dialysis Onset

Frequency of Form 2728 comorbidities, 2018-2019 provider-bene-months

Comorbidities	Frequency
History of hypertension	85.9%
Diabetes, currently on insulin	36.8%
Congestive heart failure	22.6%
Other cardiac disease	13.9%
Diabetes, on oral medications	12.1%
Atherosclerotic heart disease ASHD	10.7%
Needs assistance with daily activities	8.4%
Peripheral vascular disease	7.6%
Diabetic retinopathy	7.2%
Cerebrovascular disease, CVA, TIA	6.9%
Diabetes, without medications	6.5%
Tobacco use (current smoker)	5.9%
Chronic obstructive pulmonary disease	5.9%
Malignant neoplasm, Cancer	4.8%
Inability to ambulate	3.7%
Amputation	2.5%
Inability to transfer	1.7%
Alcohol dependence	1.1%
Drug dependence	1.1%
Toxic nephropathy	0.3%

Age of Form 2728 at the month of 72x claims, 2018-2019 provider-bene-months

Unit	Mean	Std	min	P1	P5	P10	P25	P50	P75	P90	P95	P99	max
Months	63.0	60.1	0	0	4	8	21	45	84	142	190	277	627
Years	5.2	5.0	0	0	0.3	0.7	1.8	3.8	7.0	11.8	15.8	23.1	52.3

Six Sample Comorbidities that Meet the Selection Criteria

- Assess the previous list of 29 conditions for which we examined claims completeness against the proposed selection criteria
  - Facilities are likely aware if a beneficiary has the comorbidity/condition
  - Intuitive clinical and observable relationships to dialysis treatment costs
  - It is not something that can be easily manipulated by facilities
- Six CCSR comorbidity groups are chosen based on the above criteria and significant correlation with increased total costs
  - Coagulopathy
  - Disorder of RBC production and hematologic malignancy
  - Heart failure
  - HIV
  - Peptic ulcer disease and gastrointestinal bleed
  - Pericardial disease

Clinical Intuition for Relationship of the Six Comorbidities and Total Costs

- Coagulopathy
  - Increased composite rate (CR) costs through direct patient care labor. Also increased CR costs through drugs and supplies when filters clog more regularly.
- Disorder of RBC production and hematologic malignancy
  - Increased formerly separately billable (FSB) costs
- Heart failure
  - Increased CR costs through direct patient labor (patients often require longer, gentler treatments). Increased CR capital costs per-treatment due to missed treatments. Increased CR costs through drugs for blood pressure support
- HIV
  - Increased CR capital costs due to missed treatments. Maybe increased FSB costs. Likely increased CR labor costs due to staff taking additional infection control precautions. Increased CR supply costs for the same reason
- Peptic ulcer disease and gastrointestinal bleed
  - Increased FSB costs. Increased CR costs through supplies, since filters are more likely to clot when facilities avoid heparin
- Pericarditis
  - Increased CR labor costs and increase in CR supplies such as dialysate

Alternative Comorbidities Show Meaningful Variation in Costs

Case-Mix Group	Adjuster	Original Comorbidity Adjusters	Replaced with Parsimonious CCSR Groups
	Adjusted R-Squared	*0.267*	*0.279*
Adult Age Categories	18 - 44	1.04 ****	1.05 ****
	45 - 59	1.024 ****	1.03 ****
	60 - 69	1.01 ****	1.013 ****
	70 - 79 (reference)	1.000	1.000
	>= 80	0.985 ****	0.984 ****
Other Metrics	Onset	1.032 ****	1.024 ****
	BSA (per 0.1 m2)	1.017 ****	1.018 ****
	Underweight (BMI < 18.5)	0.988 ****	0.984 ****
Original Comorbidities	Pericarditis (acute)	1.03 ****	
	Gastro-intestinal tract bleeding (acute)	1.059 ****	
	Hereditary hemolytic or sickle cell anemia (chronic)	1.128 ****	
	Myelodysplastic syndrome (chronic)	1.063 ****	
Facility	Low Volume		
	Rural		
	Log of Facility Total Treatment Duration	0.106 ****	0.104 ****
	Squared Log of Facility Total Treatment Duration	1.077 ****	1.078 ****
New Comorbidities	CCSR Group: Coagulopathy		1.03 ****
	CCSR Group: Disorder of RBC production and hematologic malignancy		1.074 ****
	CCSR Group: Heart failure		1.031 ****
	CCSR Group: HIV		1.035 ****
	CCSR Group: Peptic ulcer disease and Gi bleed		1.043 ****
	CCSR Group: Pericardial disease		1.029 ****

* Not all Control variables are shown in this table

Summarizing the Provider's Experience with this Case-Mix Model

- Interpretation of a single case-mix adjuster is more intuitive than current ESRD PPS case-mix adjusters
- Case-mix adjusters are derived relative to variation in total cost of care
  - Total cost of care reflects a beneficiary's use of facility resources relative to the facilities other beneficiaries
- Providers' change in reporting burden is small and changes in the following two ways:
  - On each claim, report total machine reported treatment minutes
  - On each claim, report codes for new comorbidities, instead of old comorbidities
- Magnitude of case-mix adjusters appears to be significantly attenuated relative to the existing ESRD PPS Adjusters
  - A budget neutral implementation of such a system would result in a significant increase in the base rate (5-10%)

Discussion Questions

- Do Panelists view the refined case-mix model as an improvement over the existing two-equation framework? What improvements do the Panelists recommend?
- How does per-treatment cost of a home HD and an HD-equivalent home PD treatment vary with duration of treatment?
  - Is it better to assume no variation in CR costs separately for all of a facility's home PD treatments and their home HD treatments?
- Is it reasonable to assume that per-minute costs of HD-equivalent treatments are equal across modalities within the same facility?
  - If not, what can be done to better disaggregate CR costs across modalities?

Discussion Questions (Cont'd)

- Are the following criteria appropriate for selecting new case-mix adjusters? What additional criteria should be included?
  - Facilities are likely aware if a beneficiary has the comorbidity/condition
  - Intuitive clinical and observable relationships to dialysis treatment costs
  - It is not something that can be easily manipulated by facilities
- Is there a preference between (i) having the facilities collect the necessary data to compute the case-mix or (ii) having CMS pre-compute the case-mix, leveraging the more complete reporting from all Medicare claims settings?
- Are there conditions from the 2728 form that providers would prefer to report on claims?

Outline

Sessions
1. Introductions and Goals for this TEP
2. Adult Case-Mix Adjustment
3. Pediatric Case-Mix Adjustment
4. Low-Volume Payment Adjustment (LVPA)
5. Acute Kidney Injury (AKI) Payment System (PS)
6. Cost Report Revisions
7. Open Discussion

Session 3 Outline

Session Objective

- Discuss the feasibility of using existing cost and utilization data to determine Pediatric payment adjustment within the context of the ESRD PPS
- Identify what changes to reporting or modeling assumptions will better reflect costs of pediatric dialysis

Session Topics

- Identify unique costs associated with pediatric dialysis
- Present data describing pediatric dialysis utilization and costs
- Describe limitations to accurate reporting of pediatric dialysis costs
- Describe options for adjusting these costs in a refined ESRD payment model

- **Session Time**
- 50 minutes

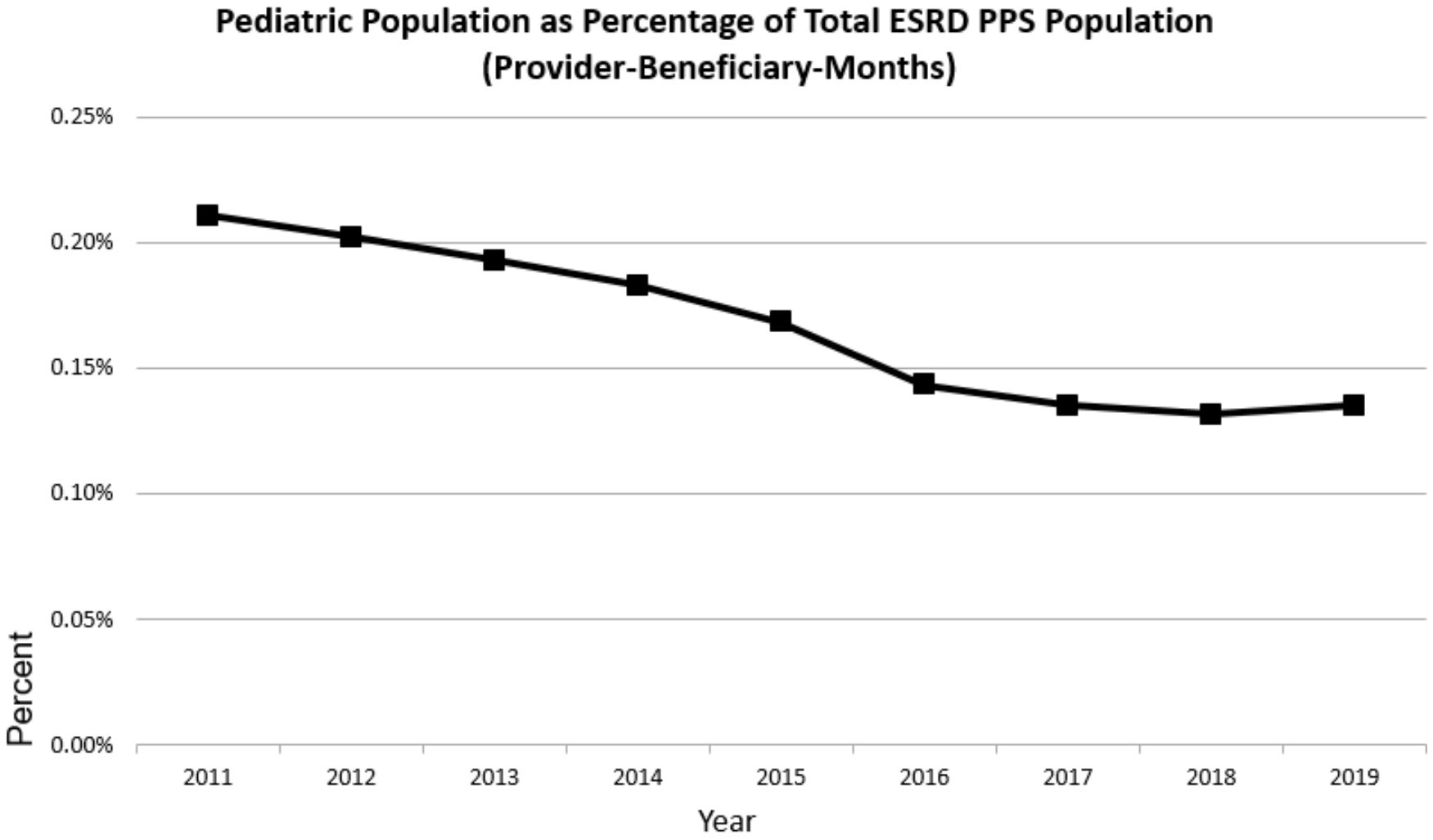
Who Qualifies for Medicare Pediatric Dialysis?

- Children whose legal guardians meet one of the following conditions:
  - have earned at least 6 credits within the last 3 years by working and paying Social Security taxes
  - are getting, or are eligible for, Social Security or Railroad Retirement Board benefits
- And the child meets one of these conditions:
  - needs regular dialysis because their kidneys no longer work
  - child has had a kidney transplant
- A child is defined as an unmarried person younger than 22 (or a person who's between the ages of 22–26, and who meets other requirements)
- Children under 18 years of age are eligible for pediatric payment adjustments in the ESRD PPS

Pediatric Dialysis Differs From Adult Dialysis in Several Ways

- **Patient population and number of facilities performing dialysis are very small**
- Dialysis modality and location of care often differ from adult population
- Pediatric dialysis patient care requires more (specialized) staffing

Pediatric Patients Comprise a Small Percentage of ESRD Beneficiaries



A Small Number of Facilities Provide 95% of Pediatric 72x Dialysis Treatments

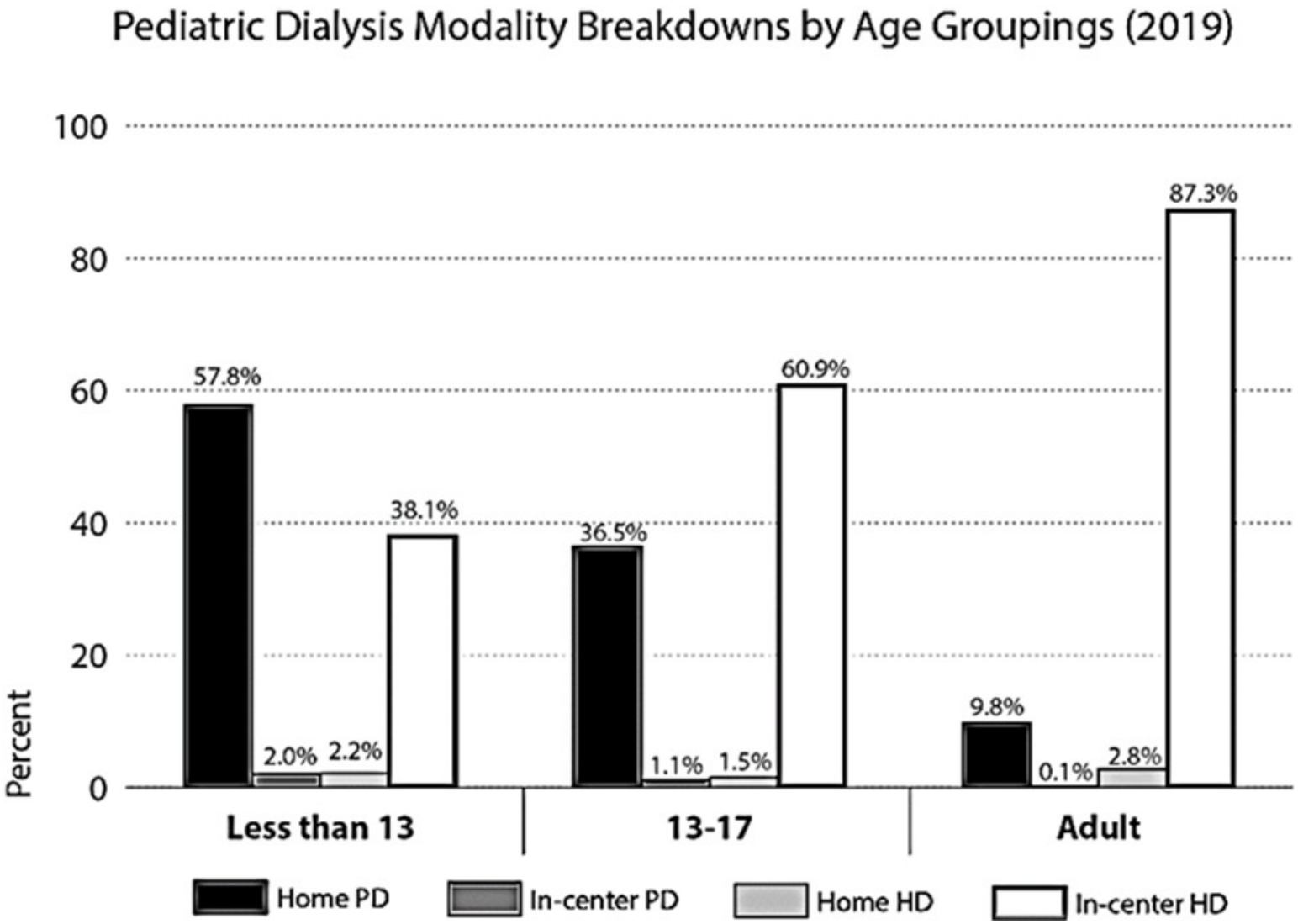
Facility Type	Total Facilities	Facilities Providing 100 or More Pediatric Treatments in 2019	
		Number of Pediatric Facilities	% Pediatric Facilities of Total
Rural/Urban			
Urban	6366	107	1.7%
Rural	1293	2	0.2%
Ownership Type			
Hospital Based	302	48	15.9%
Independent	509	4	0.8%
Large Dialysis Facility	5890	40	0.7%
Regional Chain	956	17	1.8%
Facility Size Group			
<4000	1376	39	2.8%
4000-9999	2999	19	0.6%
>=10000	3261	44	1.3%
Unknown*	23	7	30.4%

*Facilities with no reported treatment counts in CMS Form-2744 (Facility Survey) are classified as Unknown

Pediatric Dialysis Differs From Adult Dialysis in Several Ways

- Patient population and number of facilities performing dialysis are very small
- **Dialysis modality and location of care often differ from adult population**
- Pediatric dialysis patient care requires more (specialized) staffing

Pediatric Treatments Are Split Between Home Peritoneal Dialysis and In-Center Hemodialysis



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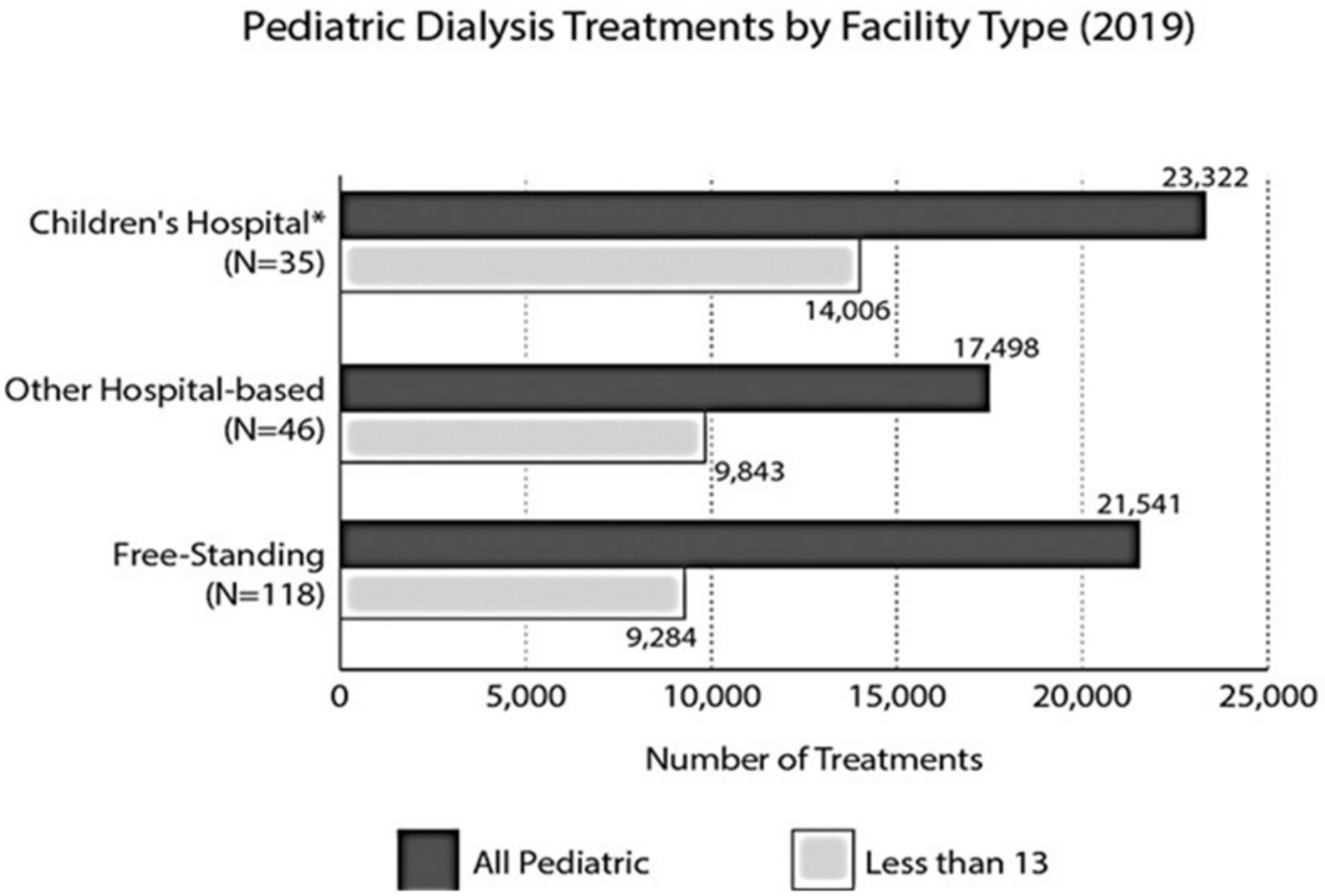
Majority of Pediatric Dialysis Treatments Occur in Hospital-Based Facilities



*If the third and fourth digits of a provider CCN are 33 OR if a provider is a satellite facility affiliated with a hospital that has 3rd or 4th digits as '33' in Cost Reports, the provider is classified as a children's hospital. If the third and fourth digits of a provider CCN are not 25, 26, 27, or 28, the provider is classified as a hospital-based ESRD facility.

Weekly Treatment Counts of In-Facility HD and Home PD are Similar to Adult Beneficiaries

Distribution of Weekly HD-equivalent Treatment Frequencies by Dialysis Modalities (2019)

Modality	Age Group	N Beneficiary-Weeks	Mean	STD	P_1	P_5	P_10	P_25	P_50	P_75	P_90	P_95	P_99
Home PD	Less than 13	8,105	2.4	0.9	0.4	0.4	0.9	2.1	3	3	3	3	3
	13-17	4,509	2.4	0.9	0.4	0.4	0.9	2.1	3	3	3	3	3
	Non-Pediatric	1,863,052	2.5	0.8	0.4	0.4	0.9	2.1	3	3	3	3	3
In-center HD	Less than 13	4,983	2.7	0.9	1	1	1	2	3	3	4	4	5
	13-17	8,491	2.7	0.8	1	1	1	2	3	3	3	4	4
	Non-Pediatric	16,151,355	2.6	0.7	1	1	1	2	3	3	3	3	4

*Distribution of home PD treatments is in HD-equivalent treatment scale (1 PD treatment = 3/7 HD treatment). Distributions not shown for In-Facility PD and Home HD due to low treatment volume

Pediatric Dialysis Differs From Adult Dialysis in Several Ways

- Patient population and number of facilities performing dialysis are very small
- Dialysis modality and location of care often differ from adult population
- **Pediatric dialysis patient care requires more (specialized) staffing**

Median RN/LPN Hours per-Treatment Higher in Pediatric Facilities

Median Person Hours* per-Treatment By Labor Categories, 2018 and 2019

Labor Category	Number of Facility-Years				Median Person Hours per-Treatment			
	Freestanding		Hospital Based		Freestanding		Hospital Based	
	Non-Pediatric	Pediatric	Non-Pediatric	Pediatric	Non-Pediatric	Pediatric	Non-Pediatric	Pediatric
Overall	11,952	100	531	86	**3.09**	**2.93**	**3.24**	**4.37**
Non-Patient Care	11,952	100	531	86	**0.53**	**0.51**	**0.00**	**0.00**
Direct Patient Care	11,952	100	531	86	**2.54**	**2.33**	**3.24**	**4.37**
-Physicians	11,952	100	531	86	**0.03**	**0.00**	**0.00**	**0.00**
-Registered Nurses/LPNs	11,952	100	531	86	**0.98**	**1.00**	**1.88**	**3.62**
-Nurse Aides/Technicians	11,952	100	531	86	**1.28**	**0.94**	**1.00**	**0.67**
-Social Workers	11,952	100	531	86	**0.13**	**0.14**	**0.02**	**0.00**
-Dieticians	11,952	100	531	86	**0.12**	**0.13**	**0.00**	**0.00**

*Person Hours are calculated by multiplying FTEs obtained through cost reports by 2080

Current Case-Mix Adjustment Model Is Adapted for Pediatric Dialysis

- The ESRD PPS estimates pediatric case-mix adjusters using the following equation:

$$Mult\ EB = P * C * (WCR + WSB * MultSB)$$

  Where:
  - P= Pediatric to Adult ratio of total treatment cost (FSB+CR)
  - C= National Average Payment Multiplier for Adults
  - WCR/ WSB= Fractions of total pediatric costs that are Composite Rate vs. FSB, respectively
  - MultSB= Estimated effects of age and dialysis modality, derived from the patient-level model for formerly separately billable (FSB) costs

- Central challenges for statistical analysis include:
  - Small number of pediatric dialysis patients
  - Difficulty disentangling the portion of composite rate costs attributable to pediatric patients

Stakeholder Concerns Regarding the Pediatric Case-Mix Adjustments

- Costs unique to pediatric dialysis are not adequately captured in current cost reports or claims, and therefore are not accounted for in pediatric adjustments
  - Pediatric dialysis often requires developmental and behavioral specialists, pediatric dieticians, and social workers
  - Pediatric comorbidities require unique specialized care

- Pediatric patients disproportionately receive treatment in hospital-based facilities, but the hospital cost report (CMS Form 2552-10) does not distinguish pediatric and adult dialysis cost

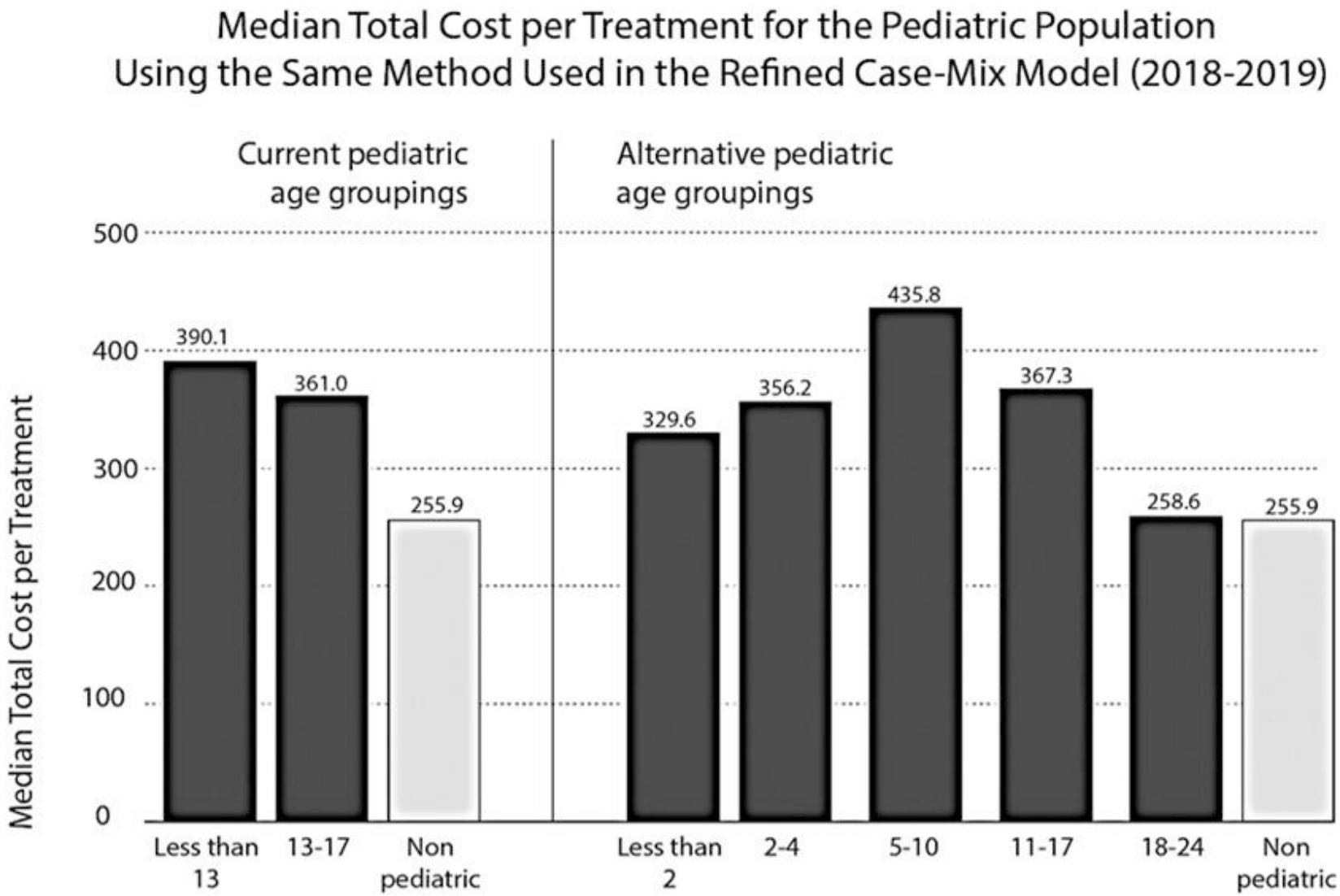
Options to Better Capture Pediatric Dialysis Costs Under a Revised Payment Model

- Addition of Pediatric-Specific Case-Mix Adjustment Multipliers
- Creation of a Pediatric Bundle or Separate Pediatric ESRD PPS
  - Would require an Act of Congress to implement
- Current reporting could be improved with:
  - Modifications to align the Freestanding and Hospital-Based Facility Cost Reports
  - A Pediatric-specific Time and Motion Study

Pediatric Specific Case-Mix Adjustment Multipliers Can Be Further Stratified by Age

- Total costs for pediatric patients are constructed using an analogous approach to adult patients
  - 'Total Costs' include Formerly Separately Billable and Composite Rate costs
- These results are displayed using two different age groupings:
  - Current Pediatric Age Groupings: <13 and 13-17
  - ASPN-Recommended Age Groupings: <2, 2-4, 5-10, 11-17, 18-24 years old (to include transition to adult care)
  - Further refinement to modifier can be done once sufficient data on duration of treatment is obtained, and when cost report revisions are implemented

Finer Stratification of Age Groups Reveals Cost Gradient



Pediatric Case-Mix Adjusters Within Refined One-Equation Method: Current Age Groupings

Case-Mix Adjusters		Parsimonious CCSR Groups (Adults only)	Parsimonious CCSR Groups (Adults and Pediatric; Same as Adult Method)
Adjusted R-Squared		*0.279*	*0.282*
Age Groups	**<13**		**1.608 ******
	13-17		**1.741 ******
	18 - 44	1.05 ****	1.05 ****
	45 - 59	1.03 ****	1.03 ****
	60 - 69	1.013 ****	1.013 ****
	70-79 (ref)	1.000	1.000
	>= 80	0.984 ****	0.984 ****
Other Metrics	Onset	1.024 ****	1.024 ****
	BSA (per 0.1 m2)	1.018 ****	1.018 ****
	Underweight (BMI < 18.5)	0.984 ****	0.984 ****
Facility	Log of Facility Total Treatment Duration	0.104 ****	0.106 ****
	Squared Log of Facility Total Treatment Duration	1.078 ****	1.077 ****
New Comorbidities	CCSR Group: Coagulopathy	1.03 ****	1.03 ****
	CCSR Group: Disorder of RBC production and hematologic malignancy	1.074 ****	1.074 ****
	CCSR Group: Heart failure	1.031 ****	1.031 ****
	CCSR Group: HIV	1.035 ****	1.035 ****
	CCSR Group: Peptic ulcer disease and GI bleed	1.043 ****	1.043 ****
	CCSR Group: Pericardial disease	1.029 ****	1.029 ****

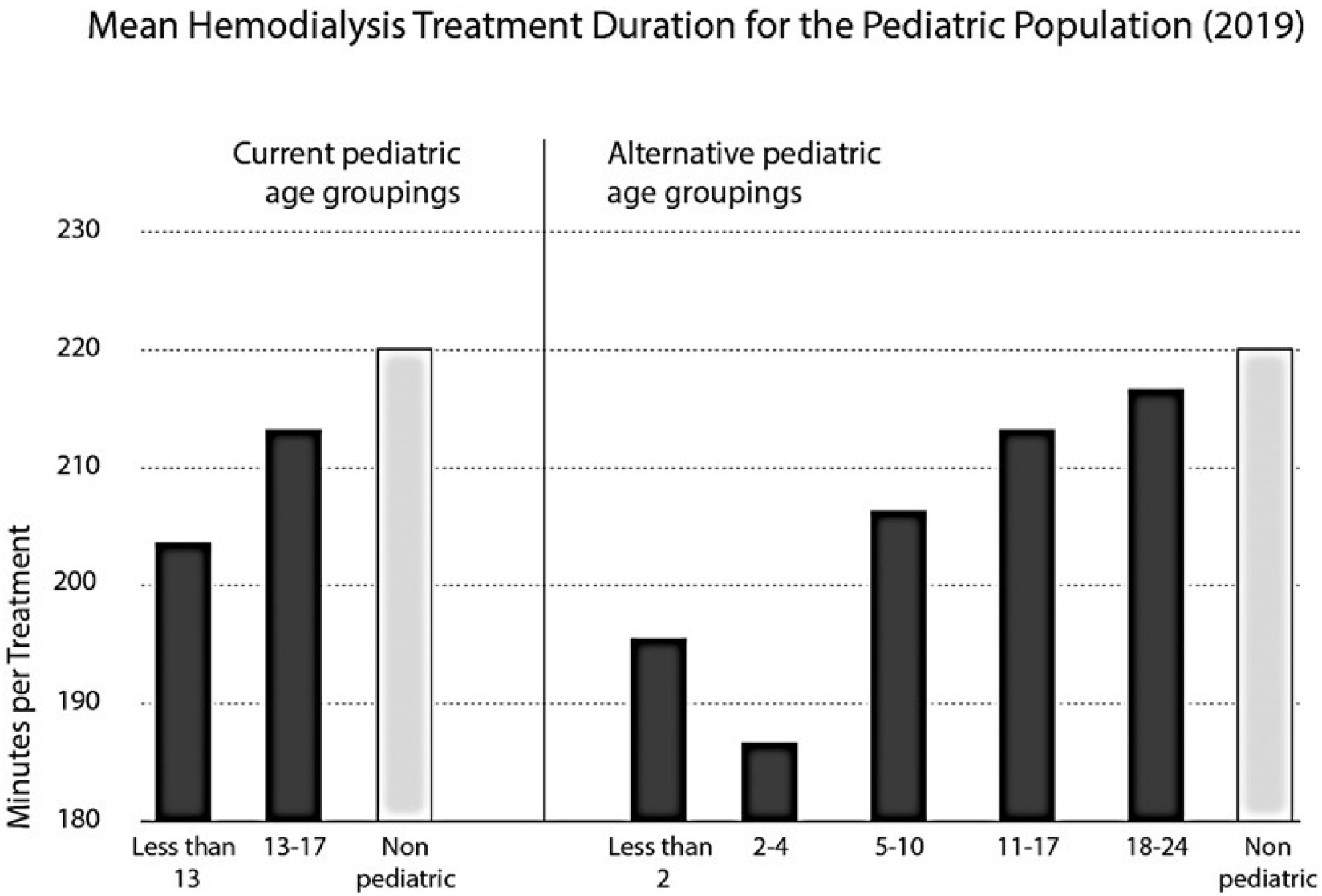
*Not all Control variables are shown in this table

Pediatric Case-Mix Adjusters within Refined One-Equation Method: ASPN Pediatric Age Groupings

Case-Mix Adjusters		Parsimonious CCSR Groups (Adults and Pediatric; Same as Adult Method)
Adjusted R-Squared		*0.282*
Age Groups	**<2**	**1.462 ******
	2-4	**1.58 ******
	5-10	**1.663 ******
	11-17	**1.728 ******
	18-24	**1.612 ******
	25 - 44	1.049 ****
	45 - 59	1.03 ****
	60 - 69	1.013 ****
	70-79 (ref)	1.000
	>= 80	0.984 ****
Other Metrics	Onset	1.025 ****
	BSA (per 0.1 m2)	1.018 ****
	Underweight (BMI < 18.5)	0.984 ****
Facility	Log of Facility Total Treatment Duration	0.106 ****
	Squared Log of Facility Total Treatment Duration	1.077 ****
New Comorbidities	CCSR Group: Coagulopathy	1.03 ****
	CCSR Group: Disorder of RBC production and hematologic malignancy	1.074 ****
	CCSR Group: Heart failure	1.032 ****
	CCSR Group: HIV	1.035 ****
	CCSR Group: Peptic ulcer disease and GI bleed	1.043 ****
	CCSR Group: Pericardial disease	1.028 ****

*Not all Control variables are shown in this table

Treatment Duration Does Not Reflect the Inverse Relationship Between Cost and Age Noted by Stakeholders



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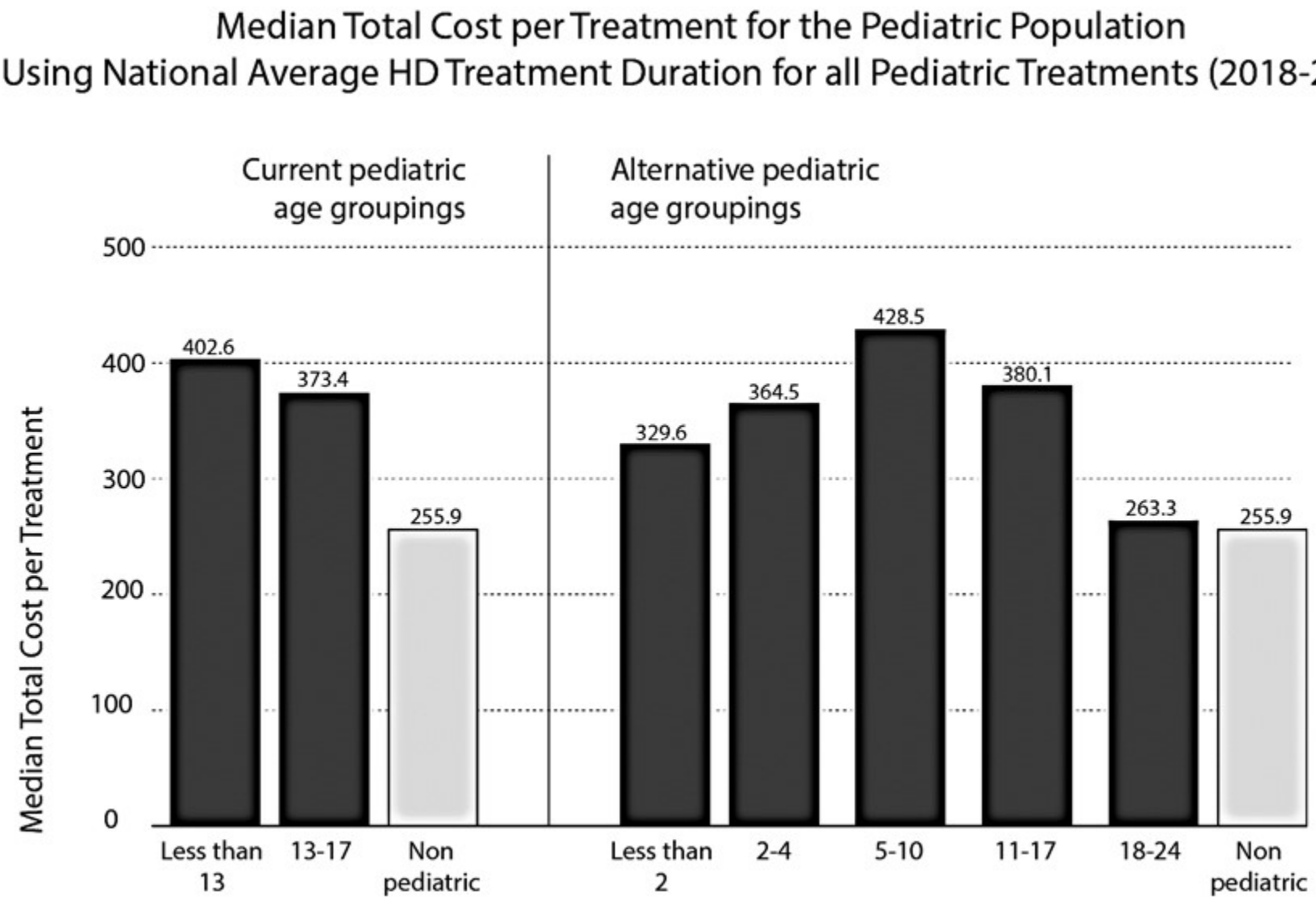
When Using National Average Treatment Duration, Relationship between Total Cost per-Treatment and Age is Consistent With Stakeholder Comments



Pediatric Adjusters Better Reflect Stakeholder Comments on Observed Costs When Using National Average Duration for Pediatrics: Current Age Groupings

Case-Mix Adjusters		Parsimonious CCSR Groups (Adults and Pediatric; Using National Average Duration for Pediatrics)
Adjusted R-Squared		*0.282*
Age Groups	**<13**	**1.654 ******
	13-17	**1.776 ******
	18 - 44	1.05 ****
	45 - 59	1.03 ****
	60 - 69	1.013 ****
	70-79 (ref)	1.000
	>= 80	0.984 ****
Other Metrics	Onset	1.024 ****
	BSA (per 0.1 m2)	1.018 ****
	Underweight (BMI < 18.5)	0.984 ****
Facility	Log of Facility Total Treatment Duration	0.106 ****
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	CCSR Group: Heart failure	1.031 ****
	CCSR Group: HIV	1.035 ****
	CCSR Group: Peptic ulcer disease and GI bleed	1.043 ****
	CCSR Group: Pericardial disease	1.029 ****

*Not all control variables are shown in this table

Pediatric Adjusters Better Reflect Stakeholder Comments on Observed Costs When Using National Average Duration for Pediatrics: Alternative Pediatric Age Groupings

Case-Mix Adjusters		Parsimonious CCSR Groups (Adults and Pediatric; Using National Average Duration for Pediatrics)
Adjusted R-Squared		*0.282*
Age Groups	**<2**	**1.468 ******
	2-4	**1.624 ******
	5-10	**1.724 ******
	11-17	**1.765 ******
	18-24	**1.644 ******
	25 - 44	1.049 ****
	45 - 59	1.03 ****
	60 - 69	1.013 ****
	70-79 (ref)	1.000
	>= 80	0.984 ****
Other Metrics	Onset	1.025 ****
	BSA (per 0.1 m2)	1.018 ****
	Underweight (BMI < 18.5)	0.984 ****
Facility	Log of Facility Total Treatment Duration	0.106 ****
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New Comorbidities	CCSR Group: Coagulopathy	1.03 ****
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	CCSR Group: Pericardial disease	1.028 ****

*Not all control variables are shown in this table

Pediatric Bundle or Separate Payment System Would Directly Account for Pediatric Resource Use

- Potential to more accurately estimate costs
  - Specialized labor, equipment and supplies needed by pediatric patients would be fully accounted for
  - Pediatric specific comorbidities (seizures, growth failure, cognitive abnormalities, etc.) would be addressed
- Goals of pediatric dialysis differ from that for adults
  - Child/ Family focused care
  - Developmental needs of the child
- Would require an Act of Congress to implement
- Would require a time and motion study or alterate extensive data collection

Revisions to Data Collection Can Facilitate Better Estimates of Pediatric Dialysis Resource Use Within Alternative Model

- Suggested changes to the Cost Report
  - Clarify instructions as they relate to pediatric dialysis to ensure accurate reporting
  - Include lines to report quantity of pediatric – specific supplies and pediatric specific labor categories
  - Discussion of this topic in Session 6: Revisions to Cost Reports
  - Reconcile hospital-based and freestanding facility cost reports
- Pediatric Time and Motion Study
  - Would yield accurate information on resource utilization of all components of dialysis costs, including person hours needed for dialysis treatment tasks
  - Likely in tandem with creation of a separate bundle and would delay implementation of revisions to pediatric payment for years, if feasible

Benefits and Drawbacks to Each Approach

- Refine the Pediatric Multiplier
  - Pros: Low burden to implement along with adult model
    - No substantial change in reporting for providers
  - Cons: Duration of treatment does not appear applicable as in the adult population, may not accurately capture all costs
- Pediatric Bundle or Separate Payment System
  - Pros: Likely to accurately estimate costs, No difference in reporting for providers (after extensive initial data collection)
  - Cons: Significant delay in implementation of a new payment system for pediatric patients, Initial data collection may present substantial burden to providers
- Cost Report Changes
  - Pros: More feasible in the short term than the creation of a new system
  - Cons: Administratively difficult to implement
    - Facility staff unfamiliar with cost report
    - Instructions would need revision
    - Of limited value if restricted to Freestanding facilities

Discussion Questions

- Does the magnitude of total costs and pediatric multipliers reflect providers' actual incurred costs?
  - If not, what specific costs are not being reported on claims and/or cost reports?
- Is there sufficient variation in composite rate (CR) costs among pediatric patients to justify use of a proxy to distribute facility-level CR costs to individual treatments?
- If duration of treatment is not a valid proxy for composite rate (CR) costs per-treatment, what are alternative proxies to consider?
- What, if any, are the specific concerns about incorporating pediatric patients into the estimation of multipliers for both the adult and pediatric populations?

Discussion Questions (Cont'd)

- What are the issues facing pediatric billing and accounting staff with regard to completion of claims and cost reports? How can these problems be remedied?
- Are there additional cost factors for pediatric patients that are not adequately captured on the 72x claim?

Informal Discussion

- Panelists are encouraged to comment on the day's discussion
- Speakers may offer comments or direct technical questions to project team representatives

TEP Agenda

Friday, December 11, 2020		
Session 4	2:00 PM – 3:10 PM	Low-Volume Payment Adjustment (LVPA)
	3:10 PM - 3:20 PM	Break
Session 5	3:20 PM – 3:55 PM	Acute Kidney Injury (AKI) Payment System (PS)
Session 6	3:55 PM – 4:40 PM	Cost Report Revisions
Session 7	4:40 PM – 5:00 PM	Open Discussion

Outline

Sessions
1. Introductions and Goals for this TEP
2. Adult Case-Mix Adjustment
3. Pediatric Case-Mix Adjustment
4. Low-Volume Payment Adjustment (LVPA)
5. Acute Kidney Injury (AKI) Payment System (PS)
6. Cost Report Revisions
7. Open Discussion

Session 4 Outline

Session Objective

- Review the alternative Low-Volume Payment Adjustment (LVPA) and Rural Adjustment methodology to maintain/improve access to dialysis for beneficiaries in regions with limited dialysis options

Session Topics

- Review existing LVPA and Rural Adjustments
- Introduce motivation for geographically based LVPA framework
- Review alternative LVPA methodology
- Gather TEP feedback on the alternative approach

Session Time

- 1 hour 10 minutes

Current ESRD PPS Includes Separate Adjustments for Low Volume and Rural Providers

- Section 1881(b)(14)(D)(iii) of Social Security Act requires a payment adjustment to "reflect the extent to which [renal dialysis] costs incurred by low-volume facilities […] exceed the costs incurred by other facilities…"
  - Effective January 1, 2011
- Low Volume Payment Adjustment (LVPA)
  - Provided to facilities with less than 4,000 treatments per year over the previous three years
  - Includes additional requirements related to ownership status and proximity to other dialysis facilities
  - 23.9 percent payment adjustment to all treatments
- Rural Adjustment
  - The ESRD PPS also includes a 0.8 percent adjustment for all facilities located in rural areas

Current LVPA Has Increased Beneficiary Access to Care, But Has Several Shortcomings

- Poor Targeting
- Potential For Gaming
- Payment Cliff

Current LVPA Can Better Target Facilities that Are Critical to Beneficiary Access

- Current rule does not consider the surrounding characteristics of LVPA facilities (ie: population density), or whether unrelated facilities are located nearby. Therefore, low volume providers in areas well served by dialysis facilities receive adjustment
  - In addition, facilities which are isolated and therefore important to beneficiary access don't receive the LVPA if they provide even slightly over 4,000 treatments
- Current LVPA may not sufficiently incentivize placement of facilities in low volume areas
  - Difficult for new facilities to obtain LVPA, as LVPA deserving facilities have to operate for three years before being eligible for adjustment

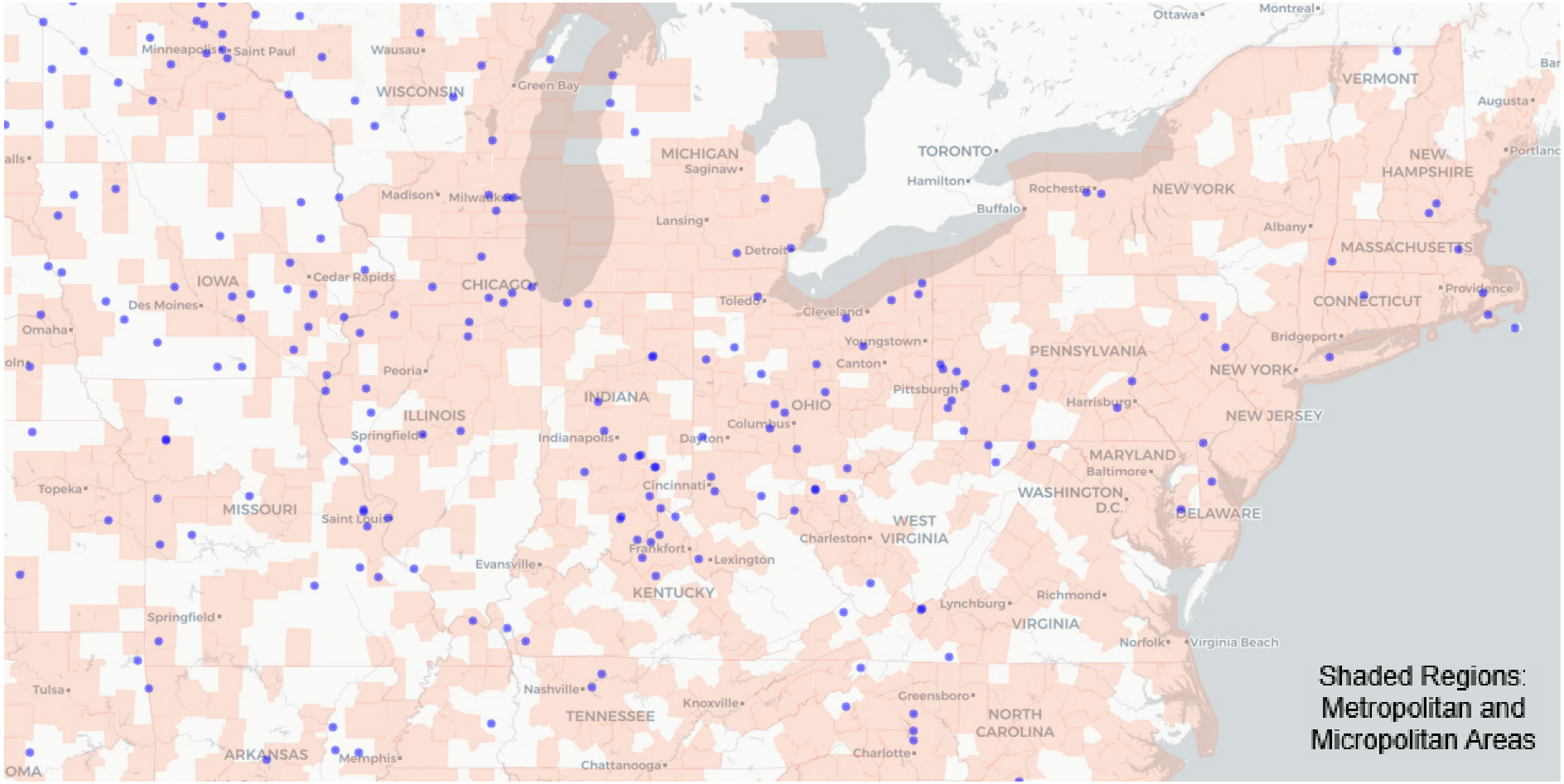
Current LVPA Treatment Threshold Creates Potential for Gaming

- Facilities that provide just over the 4,000 treatment threshold have incentive to reduce provision slightly to fall within the LVPA threshold. This marginal decrease in treatment count reduces facility overall cost, but increases overall revenue by 23%

Current LVPA Unable To Adjust Payment for Those Operating at Margins of 4,000 Treatments

- There is no supplement for facilities providing slightly more than 4,000 treatments, nor is there an additional incentive for facilities treating substantially fewer than 4,000 treatments
- The current adjustment likely does not reflect the actual treatment costs for facilities operating at the margins of the treatment threshold

Current LVPA Facilities Are Often in Urban Areas



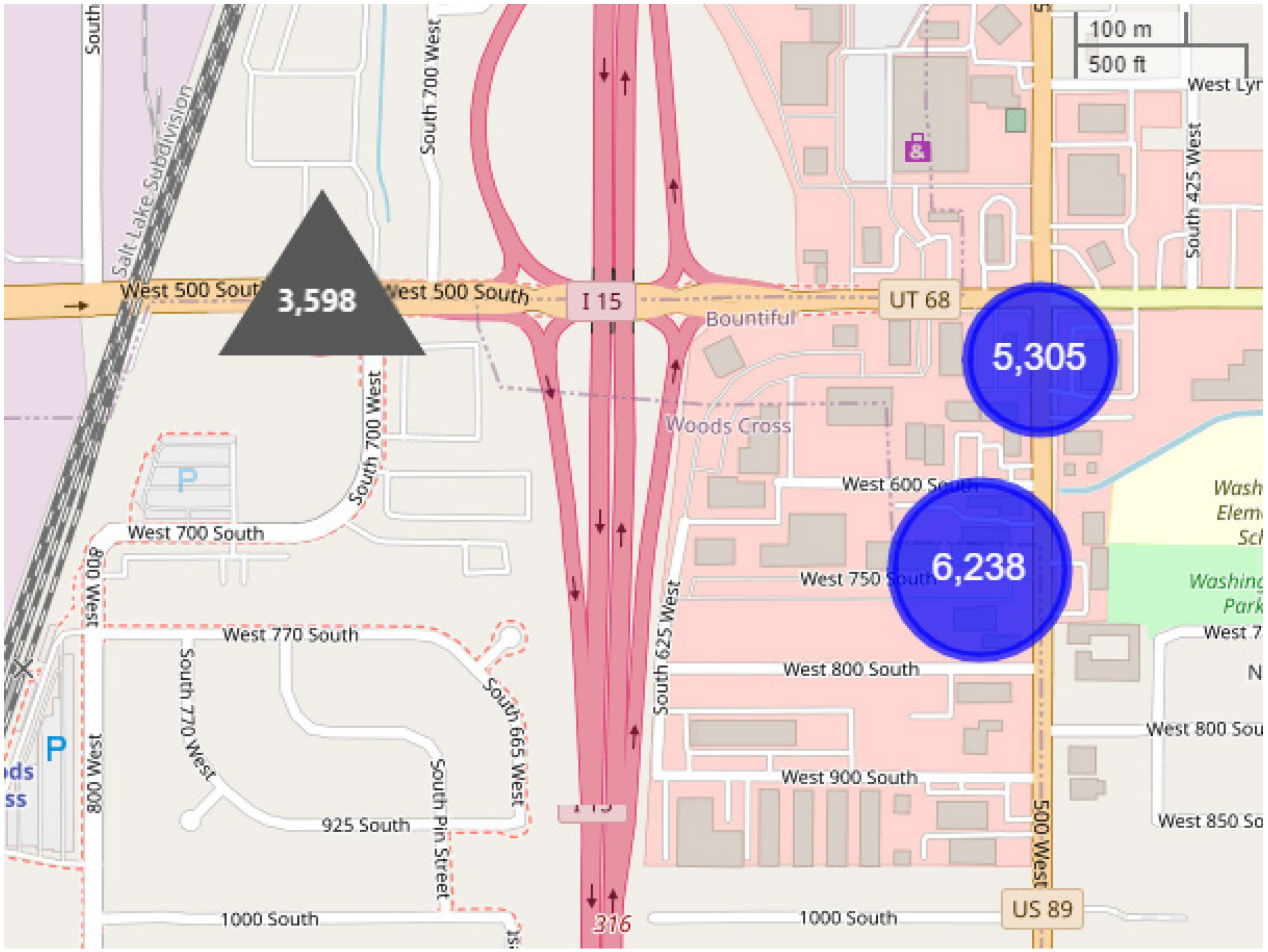
Alternative LVPA Methodology Identifies *Geographical Areas* with Low Demand Instead of *Facilities*

- Alternative LVPA methodology shifts focus from identifying small volume *facilities* to identifying *geographical areas,* specifically Census Tracts, with **low demand** for dialysis

- Focusing on *geographic areas* with low demand better ensures beneficiary access by providing incentive for dialysis organizations to continue operating/ open new facilities in otherwise non-viable locations
  - Small facilities in areas well served by other dialysis facilities (areas of high dialysis demand) will not receive the adjustment
  - A dialysis organization considering opening a facility in a low-demand area would feel assured that they would receive the LVPA for doing so, even if the facility ended up providing more than 4,000 treatments

Current Method Rewards Non-Essential Facilities

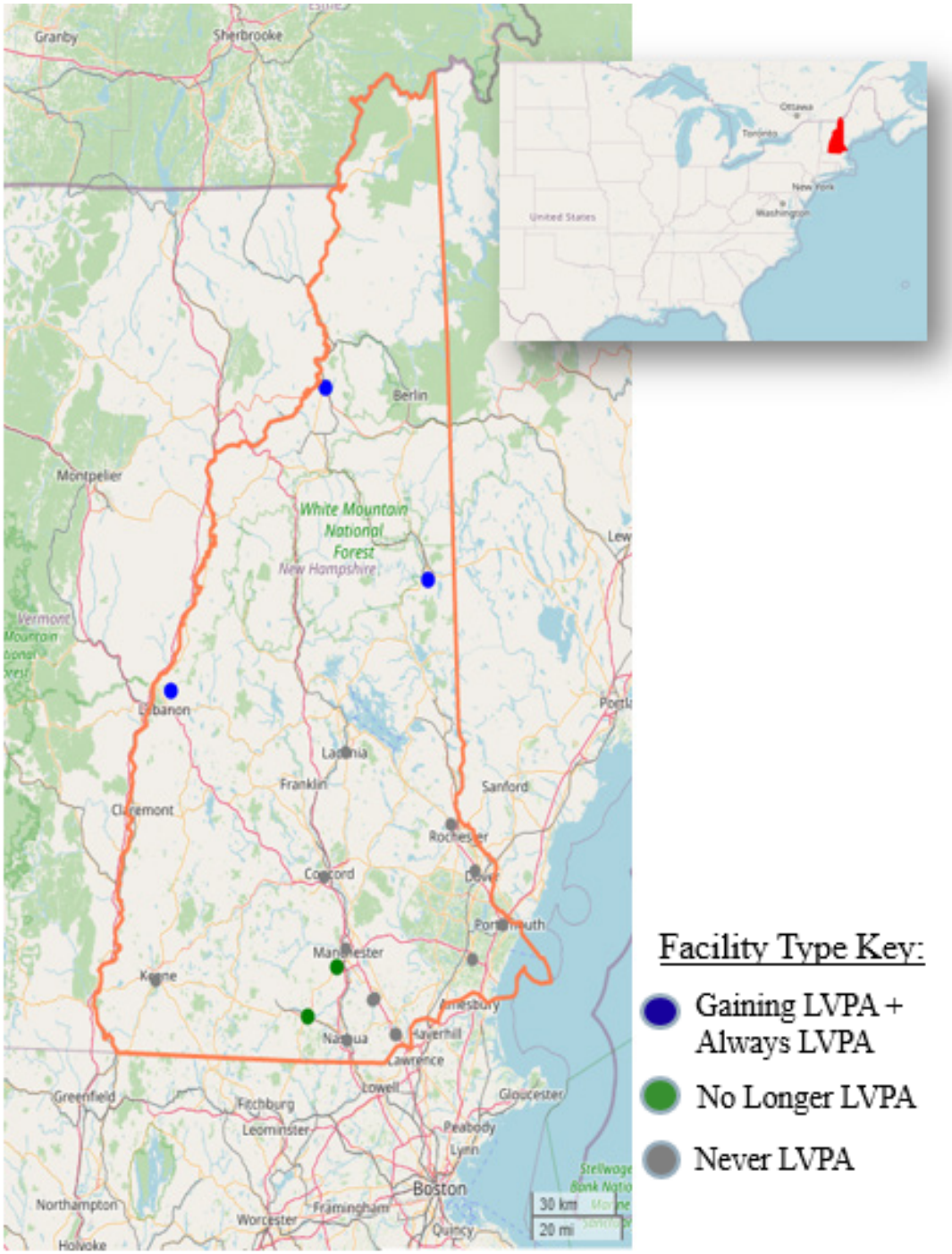
- Ideally, LVPA facilities provide access to care to an ESRD patient population where providing that care would otherwise be problematic
  - Current LVPA eligibility criteria include:
    - Less than 4,000 treatment count per year, provided by facilities under common ownership within a radius of five road miles or less
    - Consistent ownership over the prior three years of cost reporting
  - LVPA facility (triangle) is located in an area well served by other dialysis facilities (circles)



Alternative Method Targets Facilities Essential to Access to Care

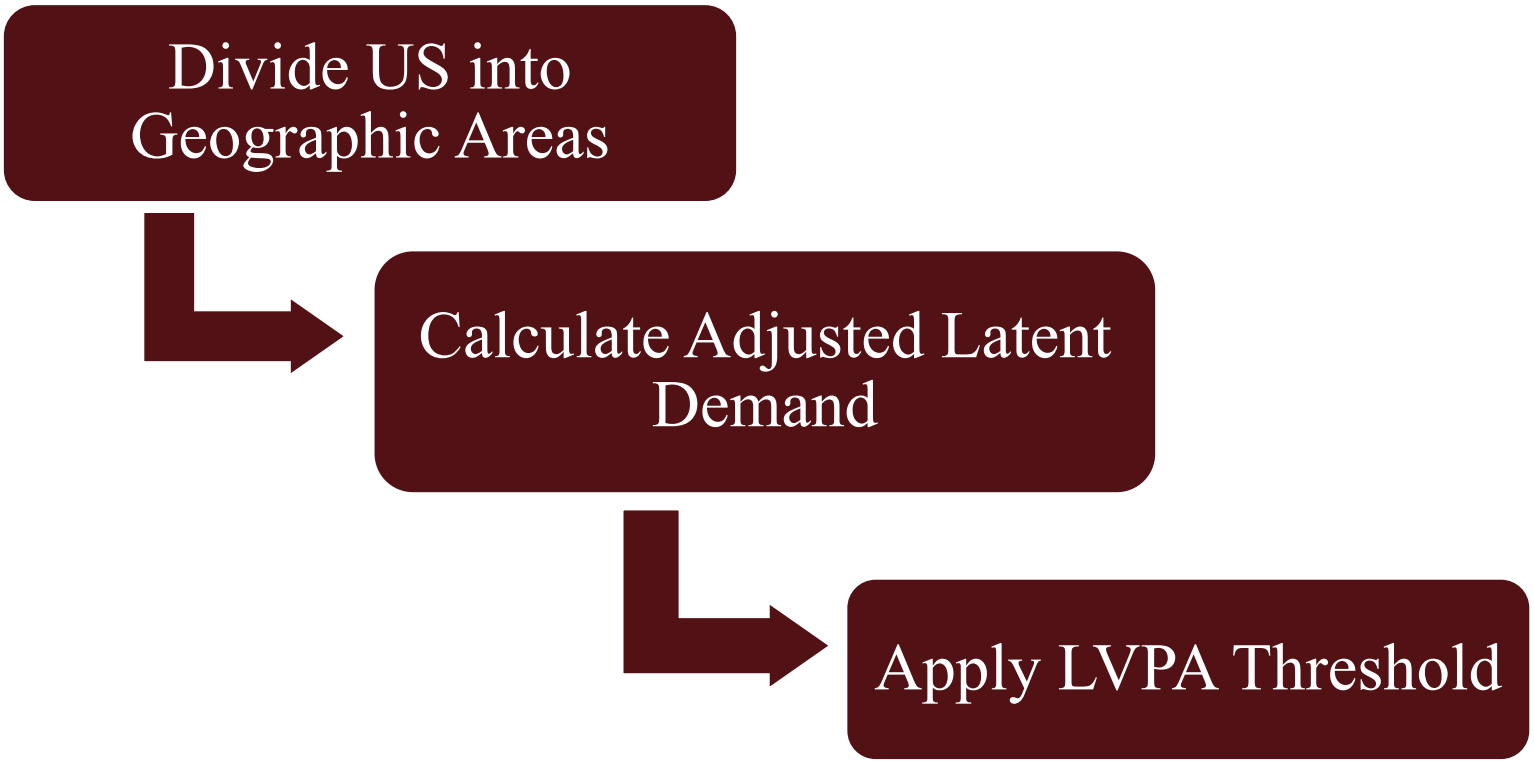
- Alternative method awards LVPA adjustment to all facilities in census tracts with low demand (depicted in blue)
- Facilities eligible for LVPA under the alternative method are often the only dialysis provider for a number of miles

	Never LVPA	Always LVPA	*No Longer LVPA*	*Gaining LVPA*
Number of Facilities	6,244	100	***235***	***235***
Next Closest Provider				
Avg (Driving Minutes to Closest Facility)	7.4	52.1	***13.8***	***46.4***



Alternative LVPA Methodology

- Alternative methodology is intended to award LVPA designation based on latent need for dialysis services in a specified geographic area rather than facility treatment counts



Alternative LVPA Methodology

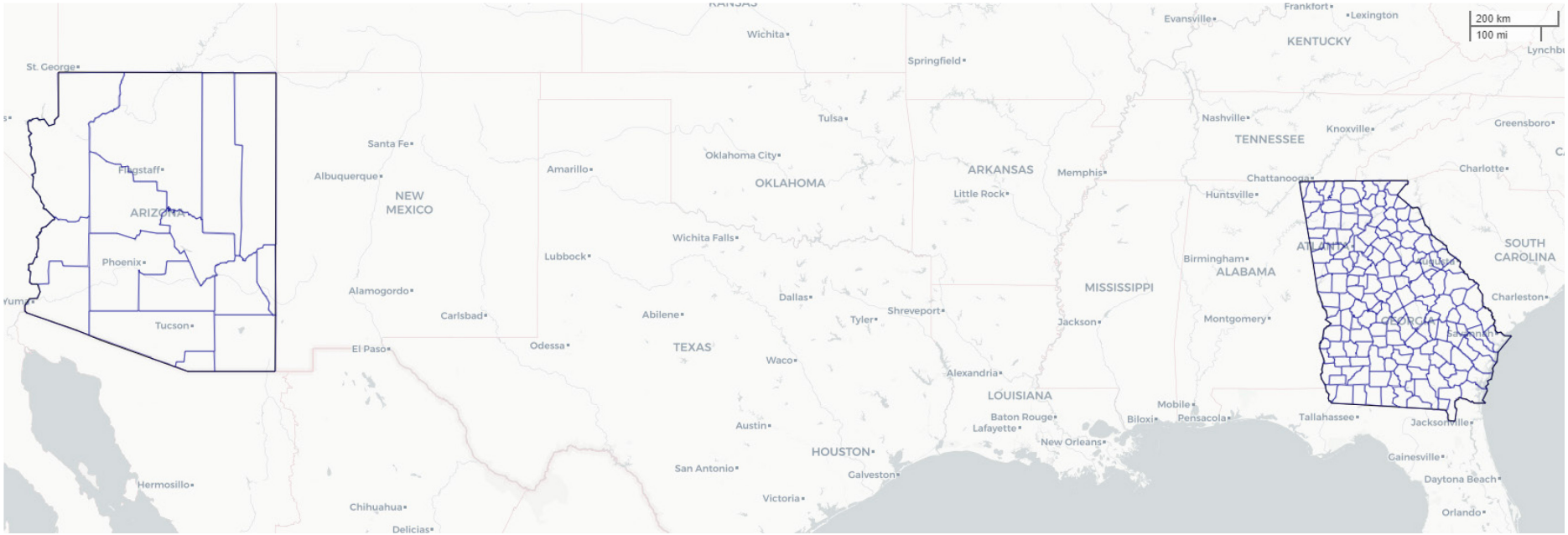
- Alternative methodology is intended to award LVPA designation based on latent need for dialysis services in a specified geographic area rather than facility treatment counts

Divide US into Geographic Areas

- Divide the US into market areas/geographic divisions based on a reasonable assessment of ESRD beneficiaries' ability or willingness to travel

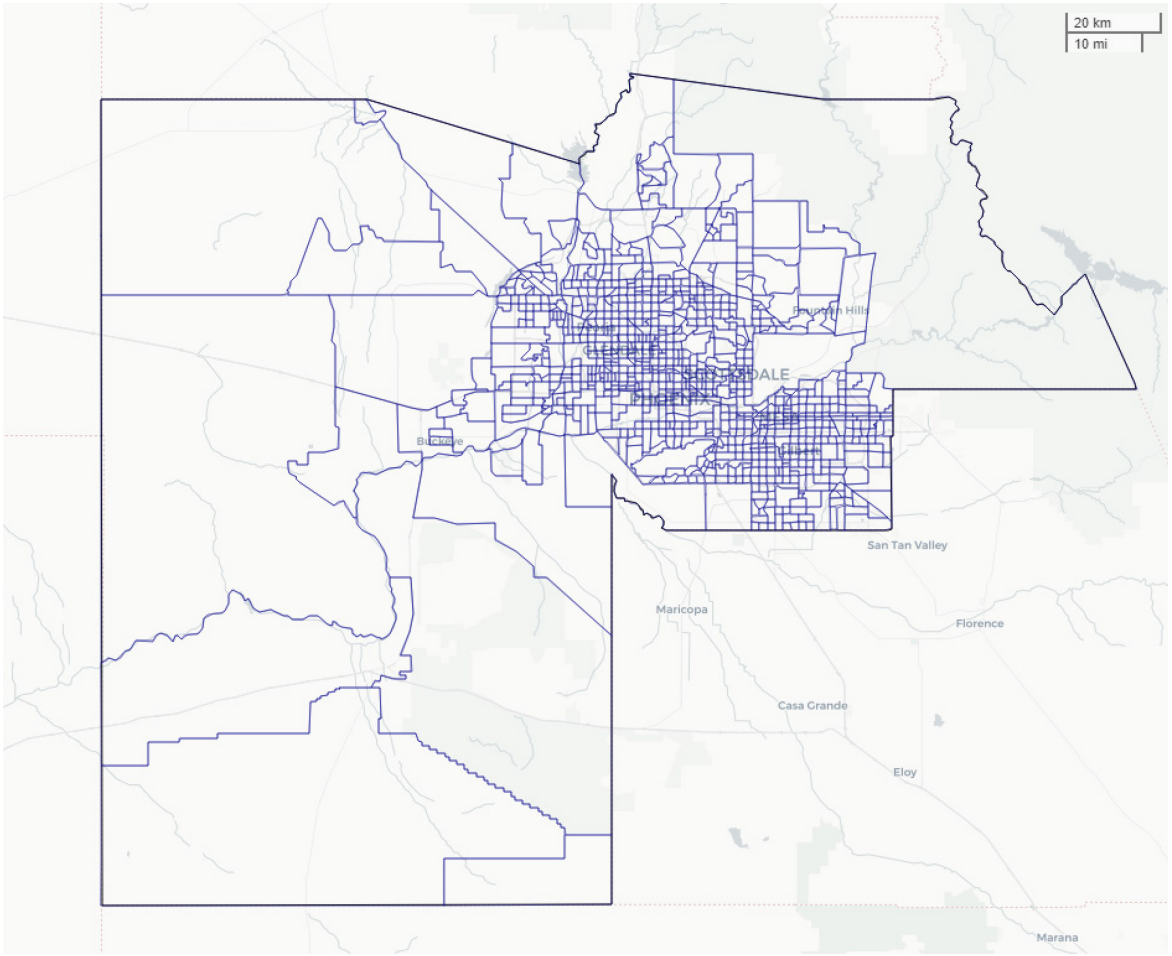
Counties Encompass Large, Heterogeneous Areas

- Counties are drawn based on political, administrative, geographic or historical boundaries
- Counties vary greatly in size and population among states
- County lines are not drawn depending on delineation of population
  - Arizona is about twice as large and 70% as populous as Georgia
  - Georgia has 159 counties, while Arizona has 15



Census Tracts Are Drawn Based on Population Size

- The Census Bureau draws tracts (using a standardized, national method designed to delineate population) to roughly correspond to neighborhoods (in urban areas)
  - Average population per tract: 4,000 (range: 1 to 8 thousand)
- Size of tract corresponds directly to population density: small tracts correspond to urban areas; large tracts correspond to rural areas
- Tracts have more equalized population



Maricopa County, AZ

Alternative LVPA Methodology

- Alternative methodology is intended to award LVPA designation based on latent need for dialysis services in a specified geographic area rather than facility treatment counts

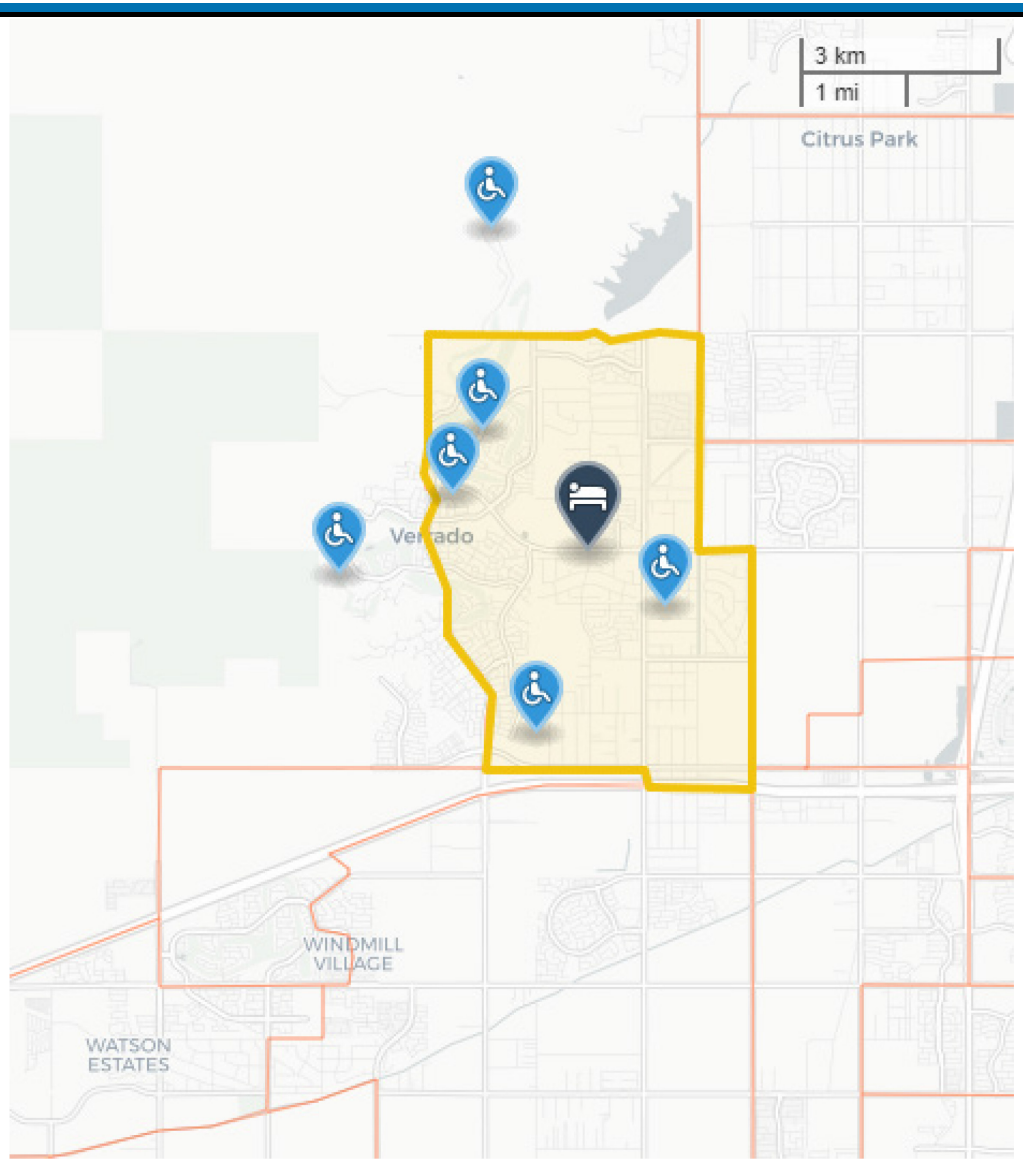
Divide US into Geographic Areas

- Divide the US into market areas/geographic divisions based on a reasonable assessment of ESRD beneficiaries' ability or willingness to travel
- The geographic unit of designation is census tracts

Calculate Adjusted Latent Demand

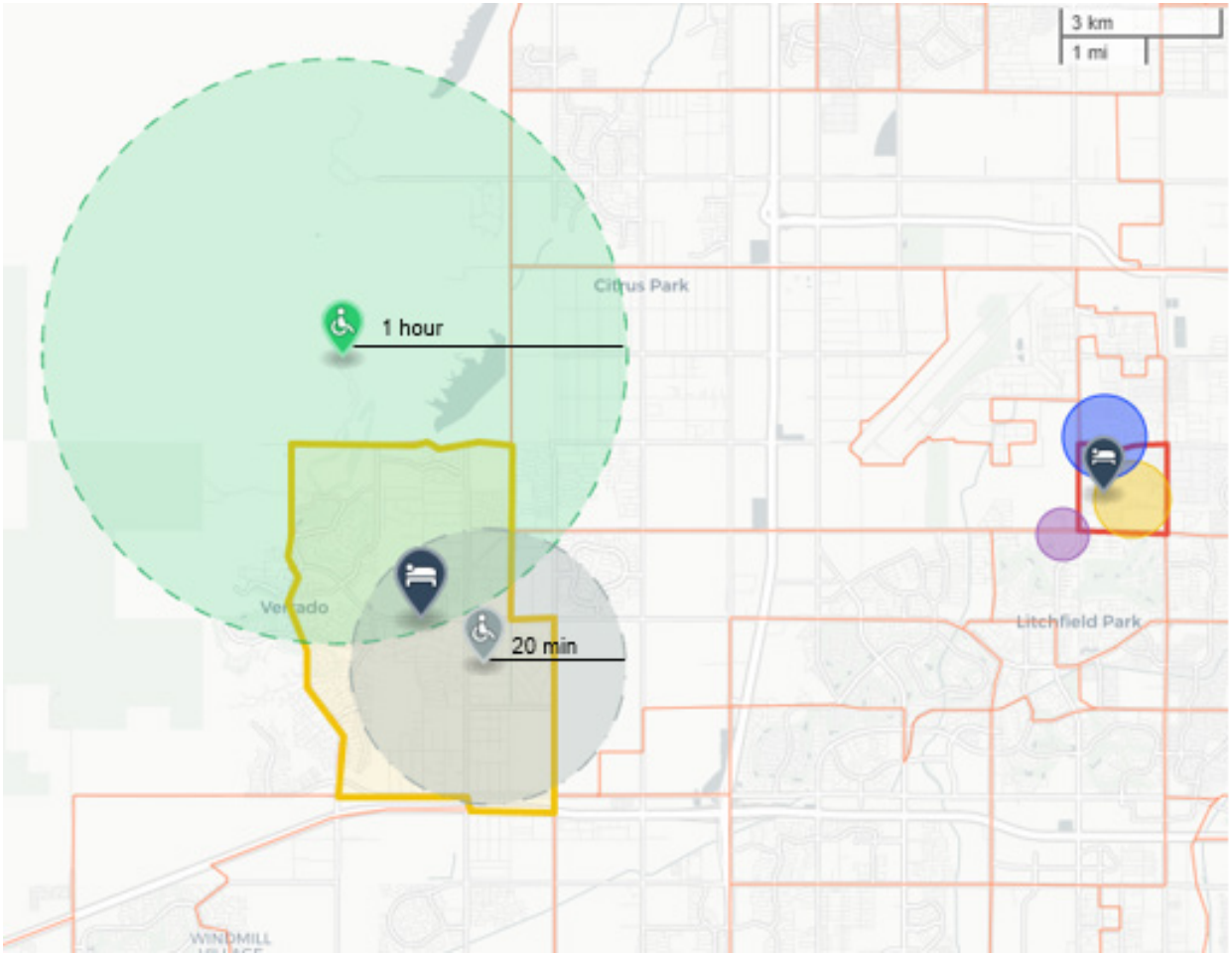
Should Yellow Tract Be an LVPA Tract?

- If a facility in this tract would be ‘too small’ to operate without subsidy, then provide subsidy
- If a facility would be ‘big enough’ to operate without subsidy, then don’t provide LVPA to facilities in this Tract
- Predict the size of facilities by calculating the number of treatments that it would be expected to furnish given the number of ESRD beneficiaries near it



Facility Demand Is Estimated Based on Beneficiary Driving Time

- The radius of each circle is determined by analyzing the actual **driving time** for ESRD beneficiaries
- Acceptable driving time (and thus radii of circles) depends on location and geographic features
  - Driving time tends to be shorter in urban areas and longer in rural/mountainous areas

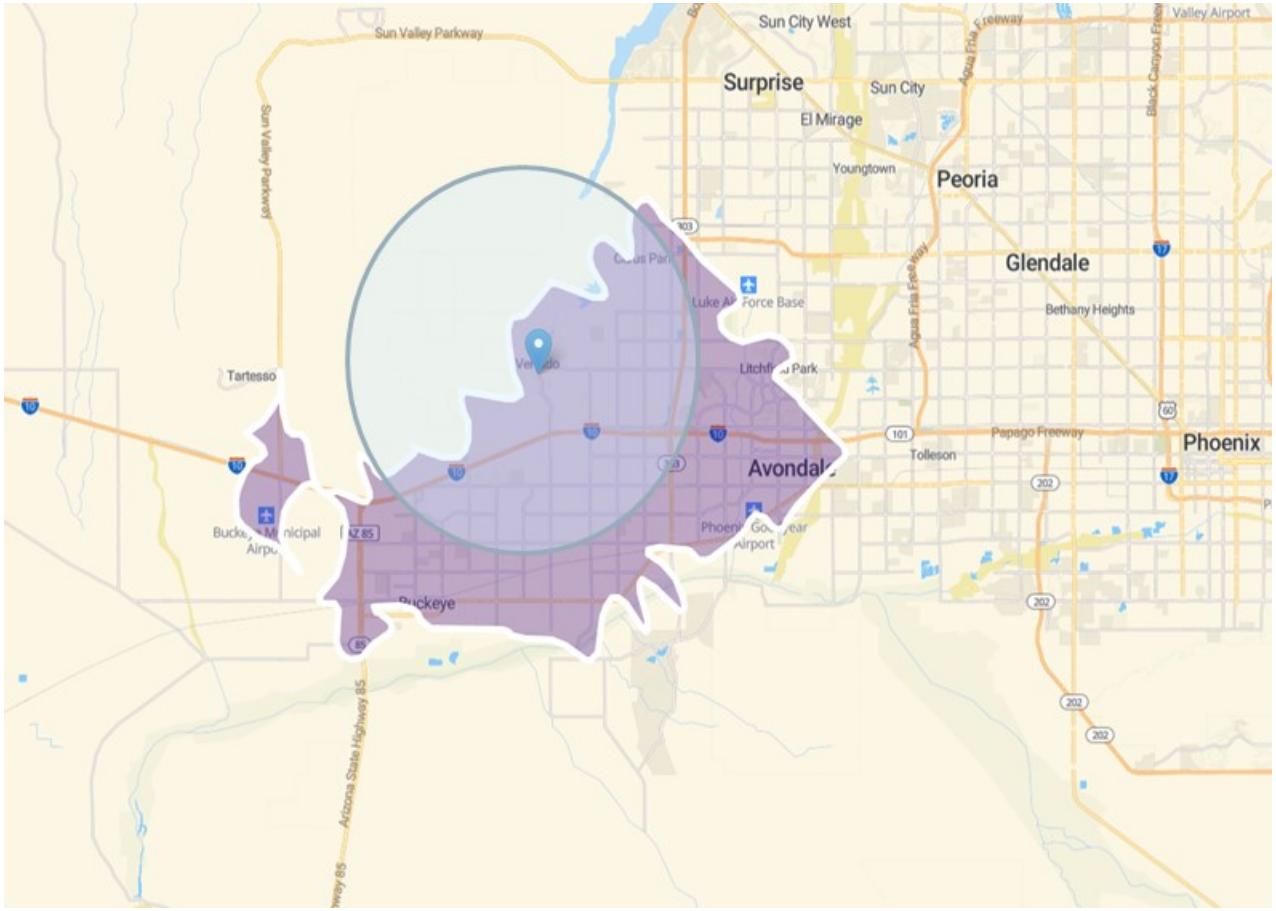


Geodesic Distance Unable to Account for Physical Boundaries

- Geodesic Distance measures the distance between a pair of coordinates, regardless of prohibitive boundaries between these two points
- Is the house closer to Facility A or Facility B?
- Geodesic distance and driving time disagree

Driving Time 'Circles' Account for Travel Obstacles

- Driving time 'circles' used to denote willingness/ability to travel will tend to be irregularly shaped
  - Purple area is area within a fixed driving time from the map point
  - Irregular shape comes from road quality and location
- Able to account for topographical changes created by highways



Alternative LVPA Methodology

- Alternative methodology is intended to award LVPA designation based on latent need for dialysis services in a specified geographic area rather than facility treatment counts

Divide US into Geographic Areas

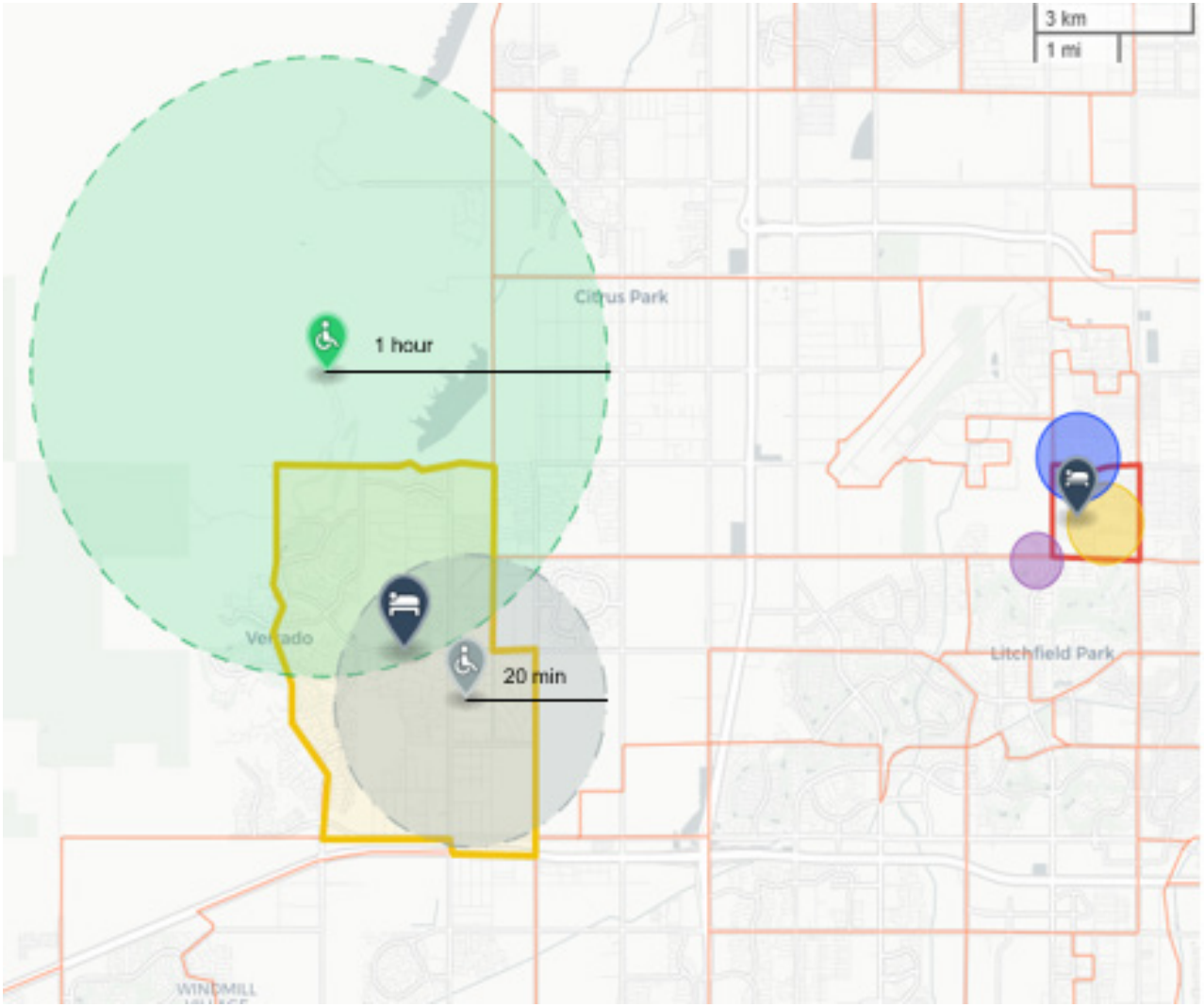
- Divide the US into market areas/geographic divisions based on a reasonable assessment of ESRD beneficiaries' ability or willingness to travel
- The geographic unit of designation is census tracts

Calculate Adjusted Latent Demand

- Count the number of ESRD beneficiaries near each facility
- Define "near" by driving time

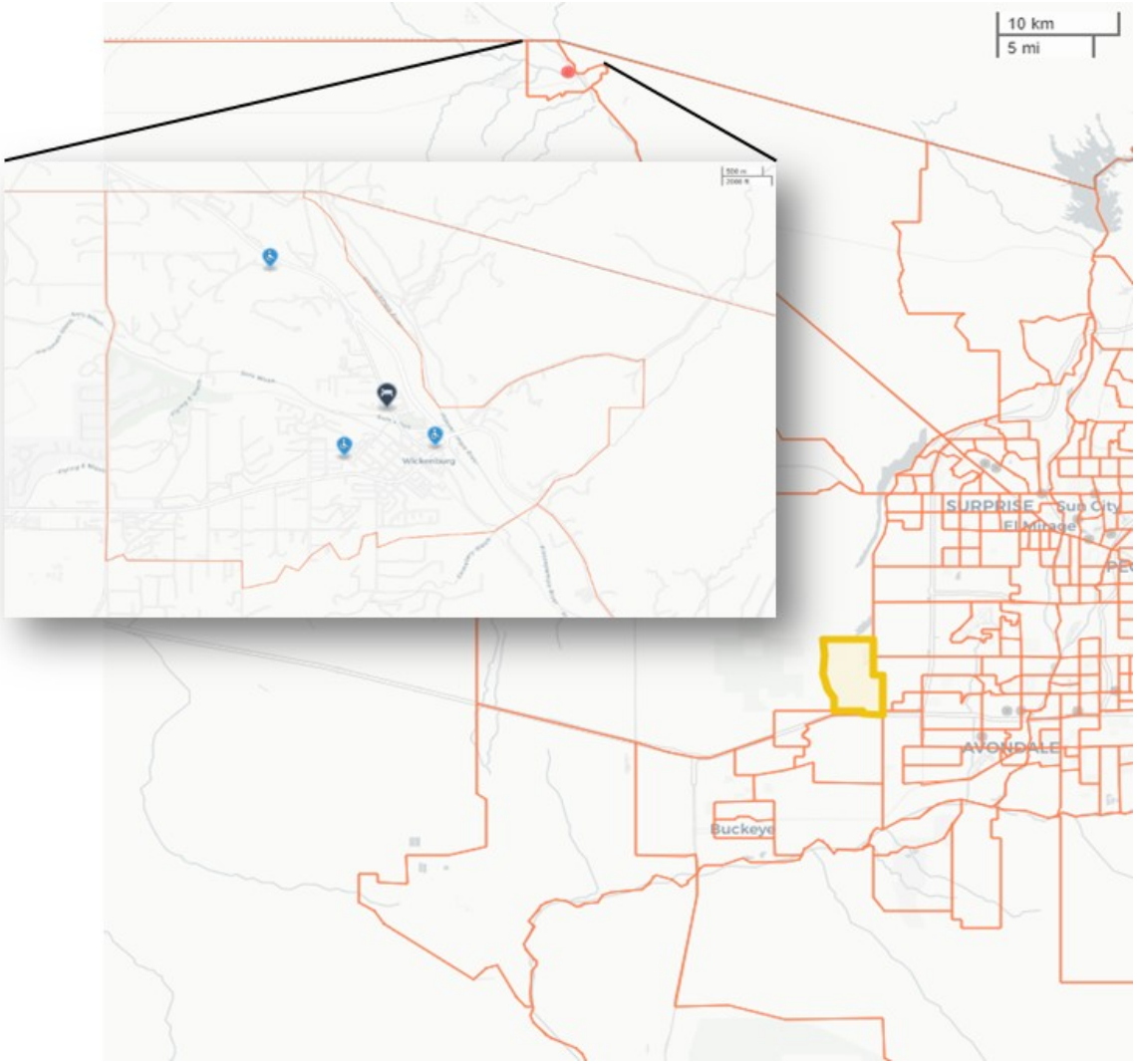
Facility Demand Is Estimated Based on Beneficiary Driving Time

- Draw a circle around each beneficiary, and count the number of times each beneficiary circle overlaps with a given facility
- Multiply the number of overlaps with the average number of treatments for ESRD beneficiaries. This yields **latent demand**



Isolated Facilities Used as Proxies to Determine Adjusted Latent Demand

- Not all beneficiaries are going to go to the closest provider. Not all beneficiaries going to the provider are going to come from inside the beneficiary circles
- In order to account for this incongruence, we adjust the latent demand using a statistical model to better approximate what a provider would observe in terms of demand if they were to locate in this region. This yields **adjusted latent demand**



Alternative LVPA Methodology

- Alternative methodology is intended to award LVPA designation based on latent need for dialysis services in a specified geographic area rather than facility treatment counts

Divide US into Geographic Areas

- Divide the US into market areas/geographic divisions based on a reasonable assessment of ESRD beneficiaries' ability or willingness to travel
- The geographic unit of designation is census tracts

Calculate Adjusted Latent Demand

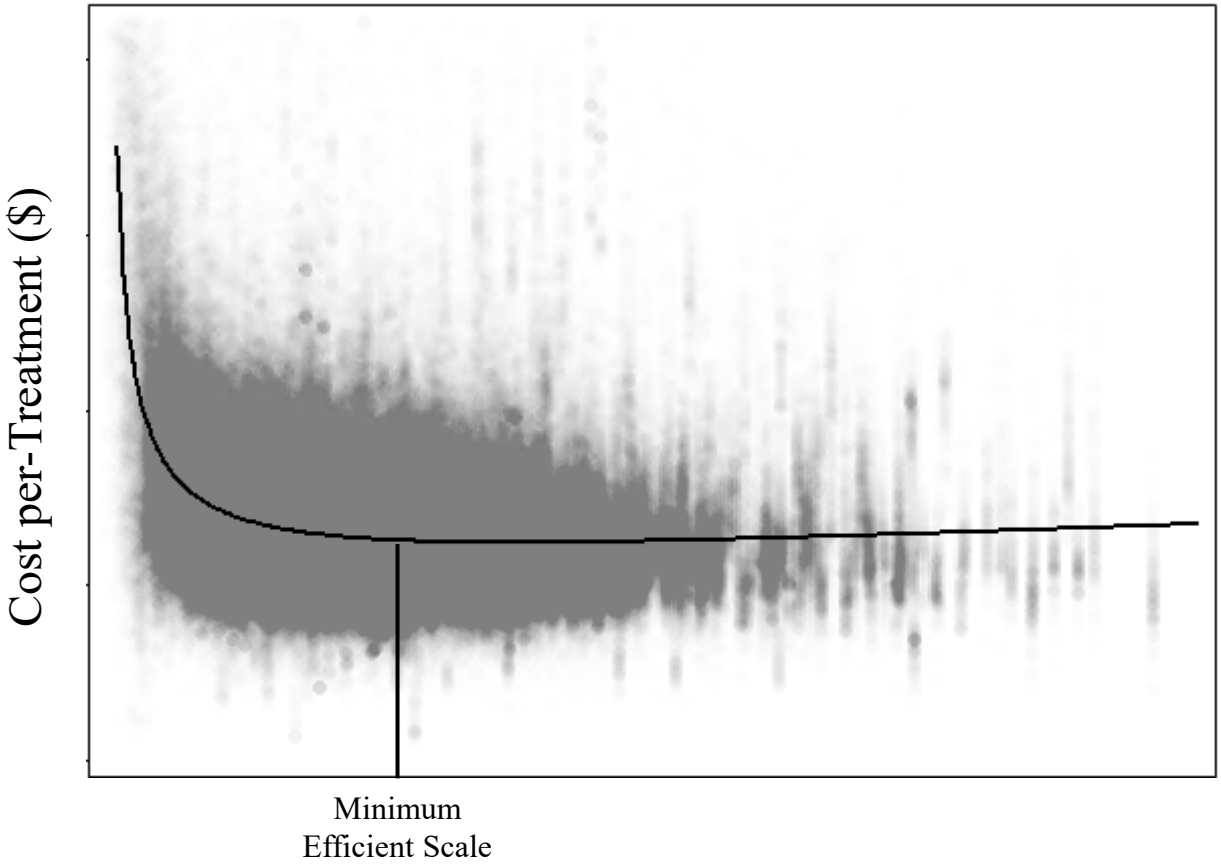
- Count the number of ESRD beneficiaries near each facility
- Define "near" by driving time
- Multiply number of beneficiaries near a provider with average number of treatments for ESRD beneficiaries (latent demand)
- Adjust for differences between hypothetical and actual demand using a regression model (adjusted latent demand)

Apply LVPA Threshold

- Determine threshold of adjusted latent demand, below which census tract is LVPA eligible

There Are Several Ways to Establish LVPA Threshold

- The LVPA threshold can be chosen:
  - Based on a cost analysis, as at right
  - Based on budgetary considerations
  - To maintain approximately the same number of LVPA facilities
  - To maintain current standards: e.g., predicted volume = 4,000 treatments/year
- Multiple thresholds can be implemented to address payment cliff concerns
  - 30% LVPA could be given to tracts with adjusted latent demand under 3,000 treatments
  - 15% LVPA could be given to tracts with between 3,000 and 5,000 treatments



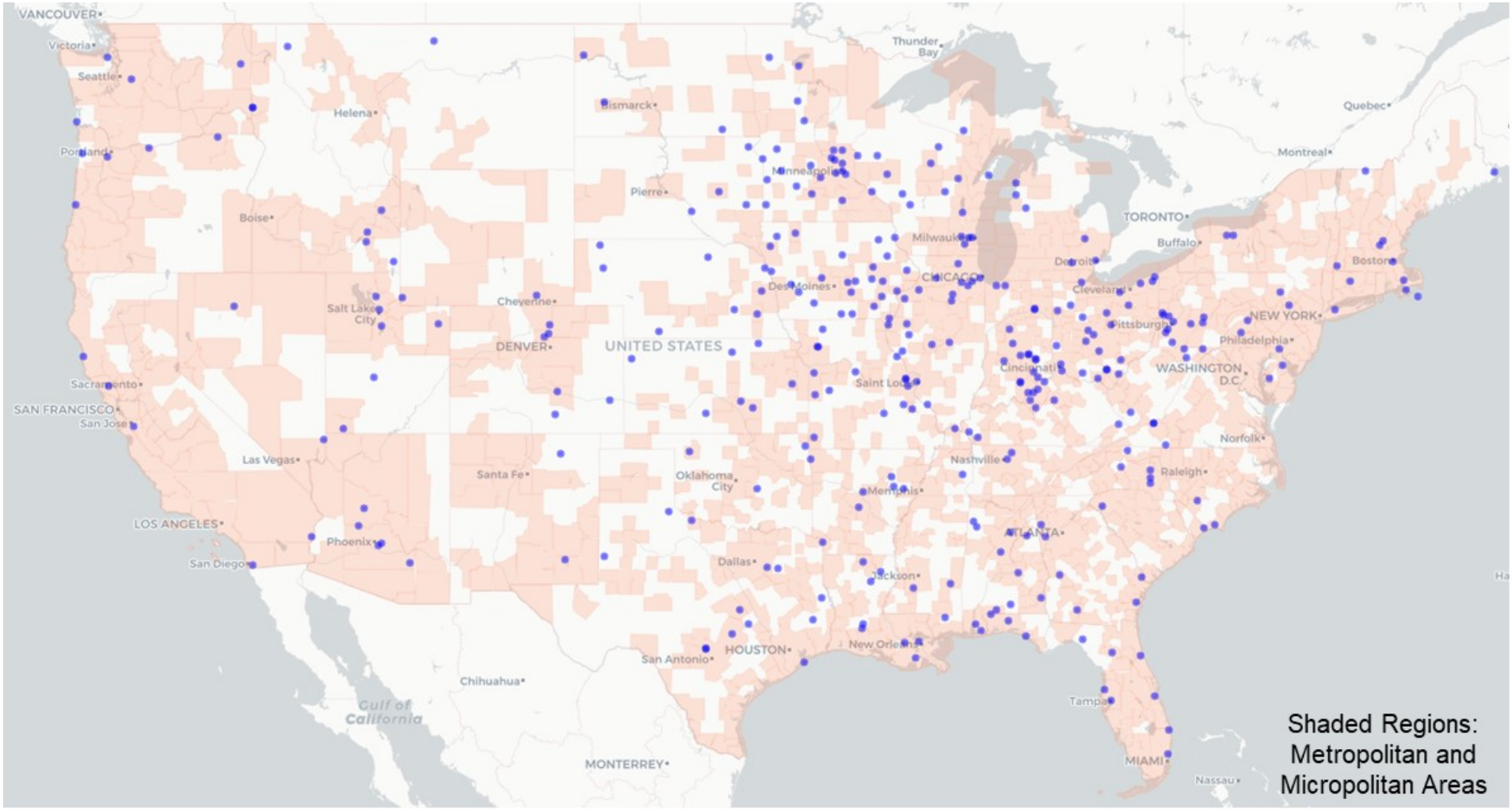
Alternative LVPA Methodology Addresses LVPA Policy Goals and Stakeholder Concerns

- Potential for Gaming:
  - Alternative methodology does not consider treatment volume, removing incentive to withhold treatments to maintain LVPA eligibility
- Improvement in Targeting:
  - Small facilities in well served areas by other facilities will not receive adjustment, since places with many facilities have high demand for services
- Payment Cliffs:
  - The alternative methodology introduces options for tiered thresholds in order to account for varying degrees of demand

Alternative LVPA Creates a More Sensible Designation Standard

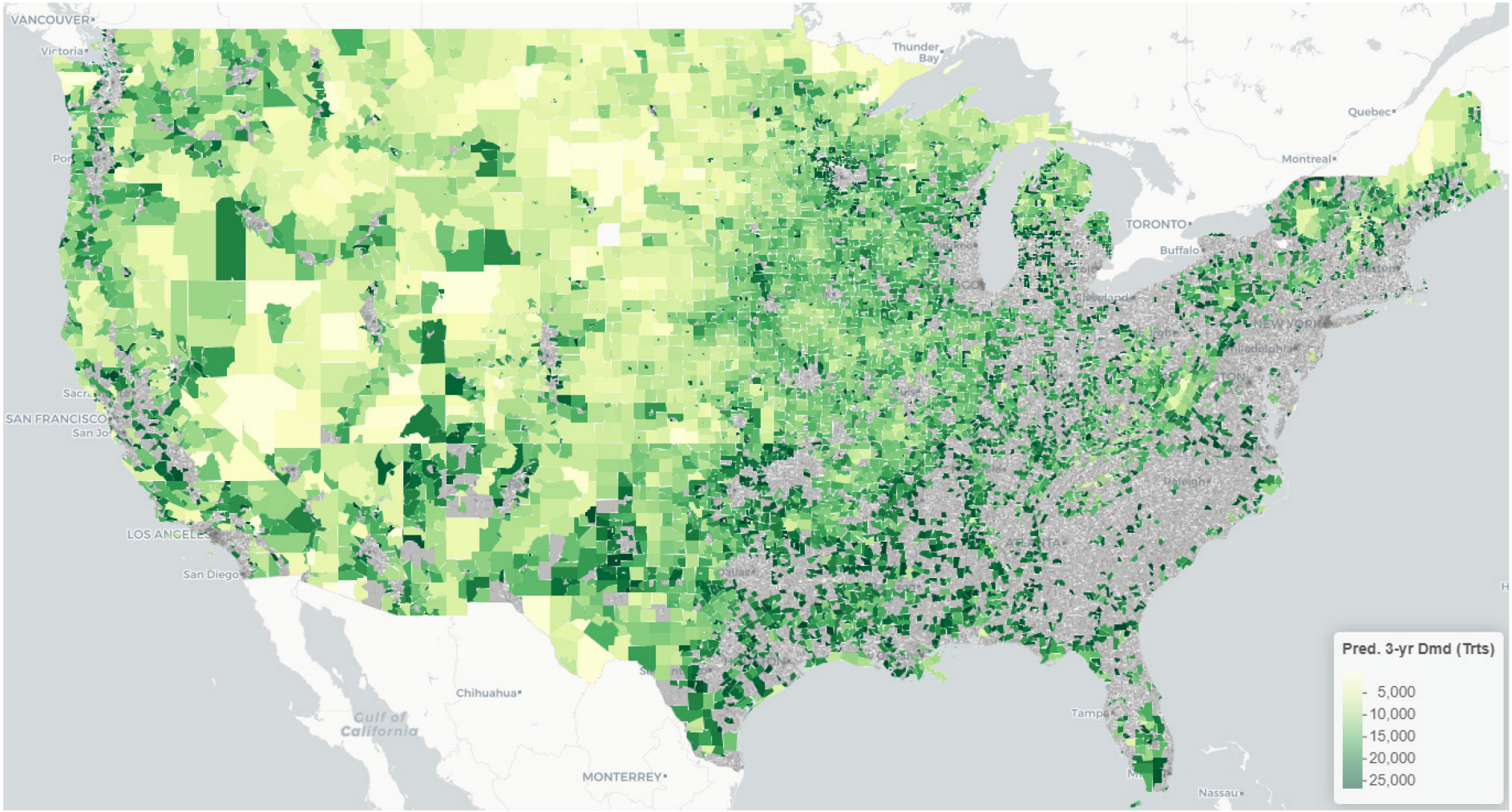
- Theoretically sensible
  - If an isolated provider located in the tract would not be big enough to be economically feasible, then there is no financial incentive to put a facility there
  - If an isolated provider located in the tract would be big enough to be economically feasible, then there is a financial incentive to put a facility there without the LVPA
- Sensible in Practice

Current LVPA Facilities Are Often in Urban Areas



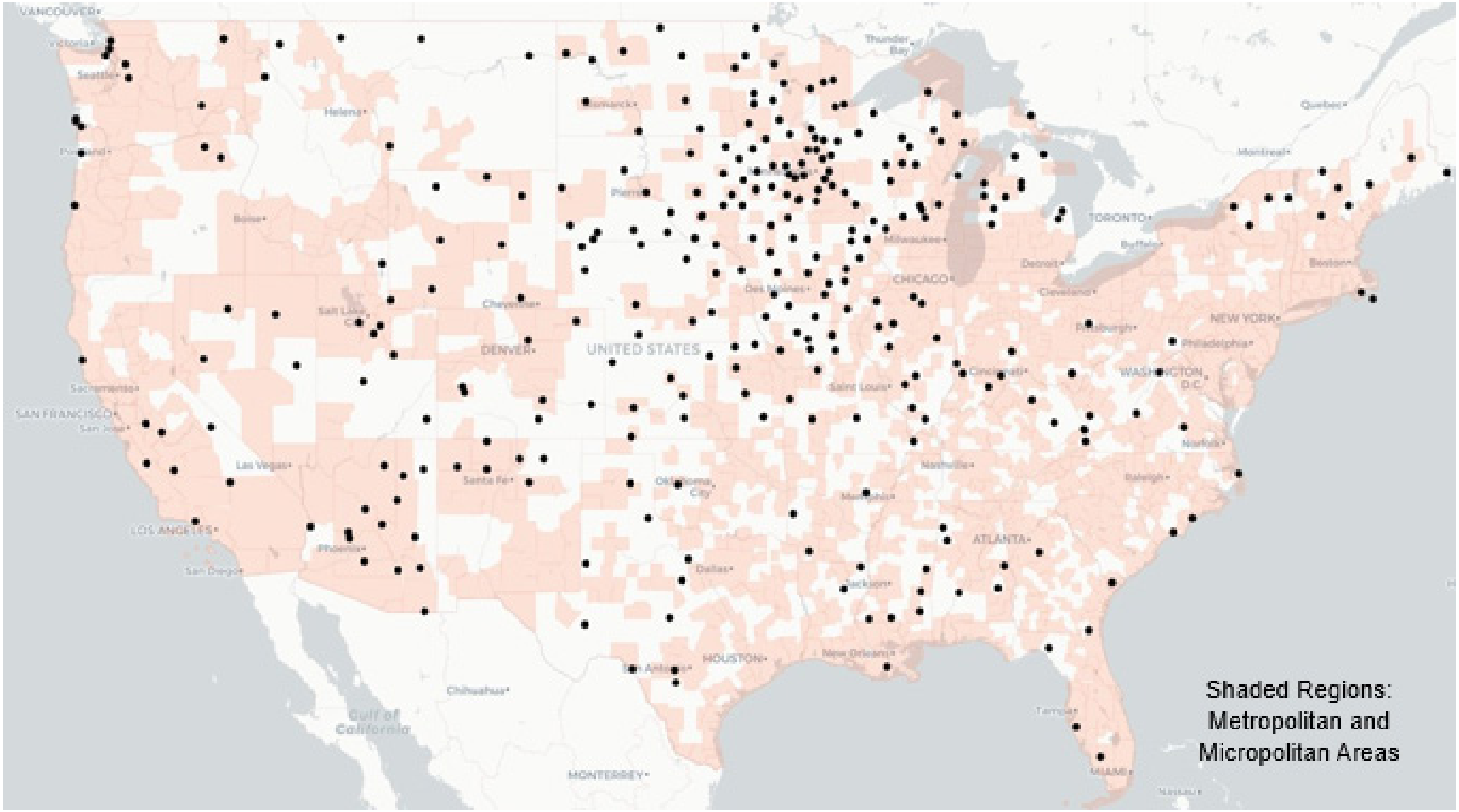
ACUMEN

Predicted Demand for Alternative LVPA Tracts

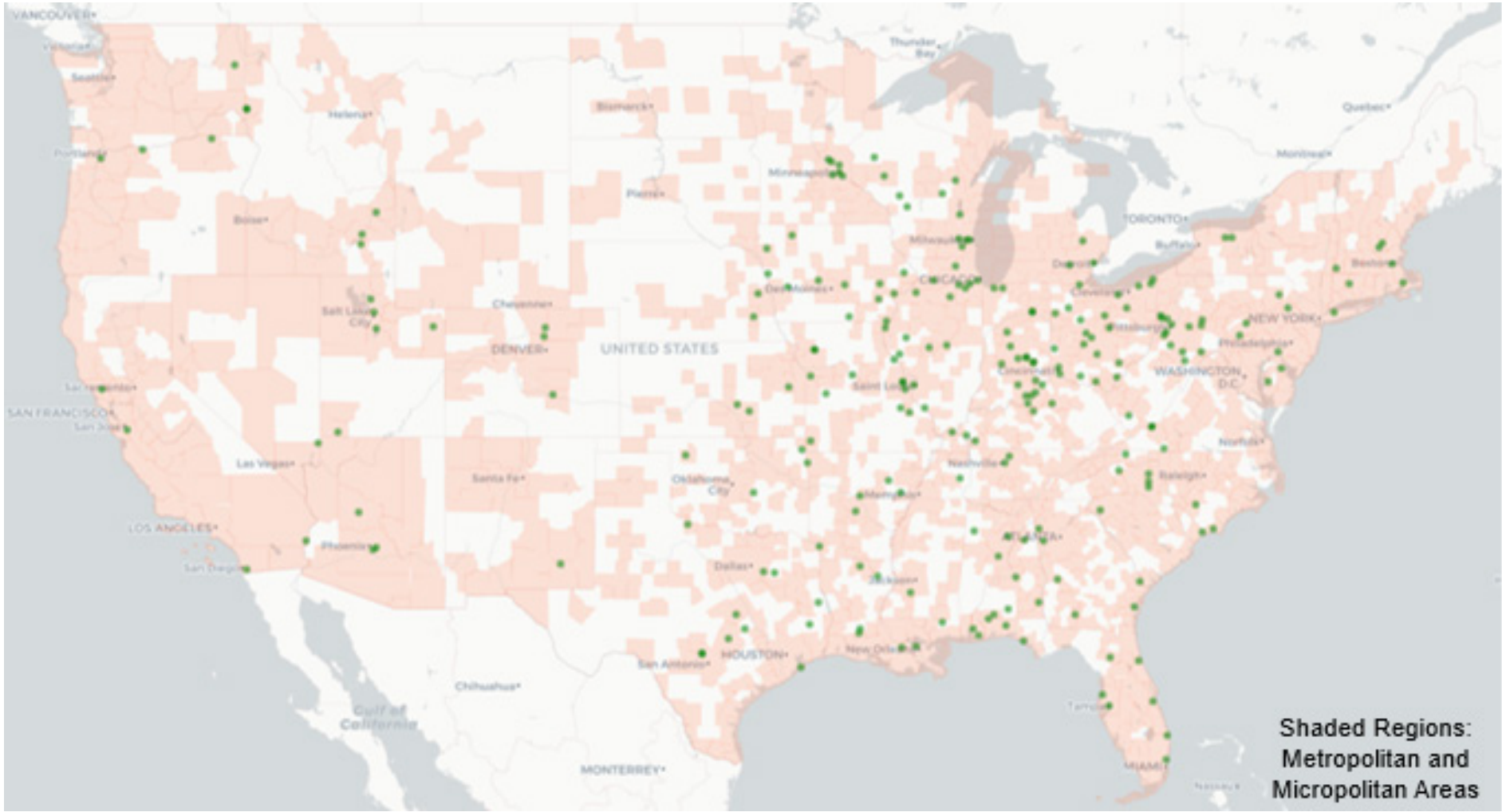


ACUMEN

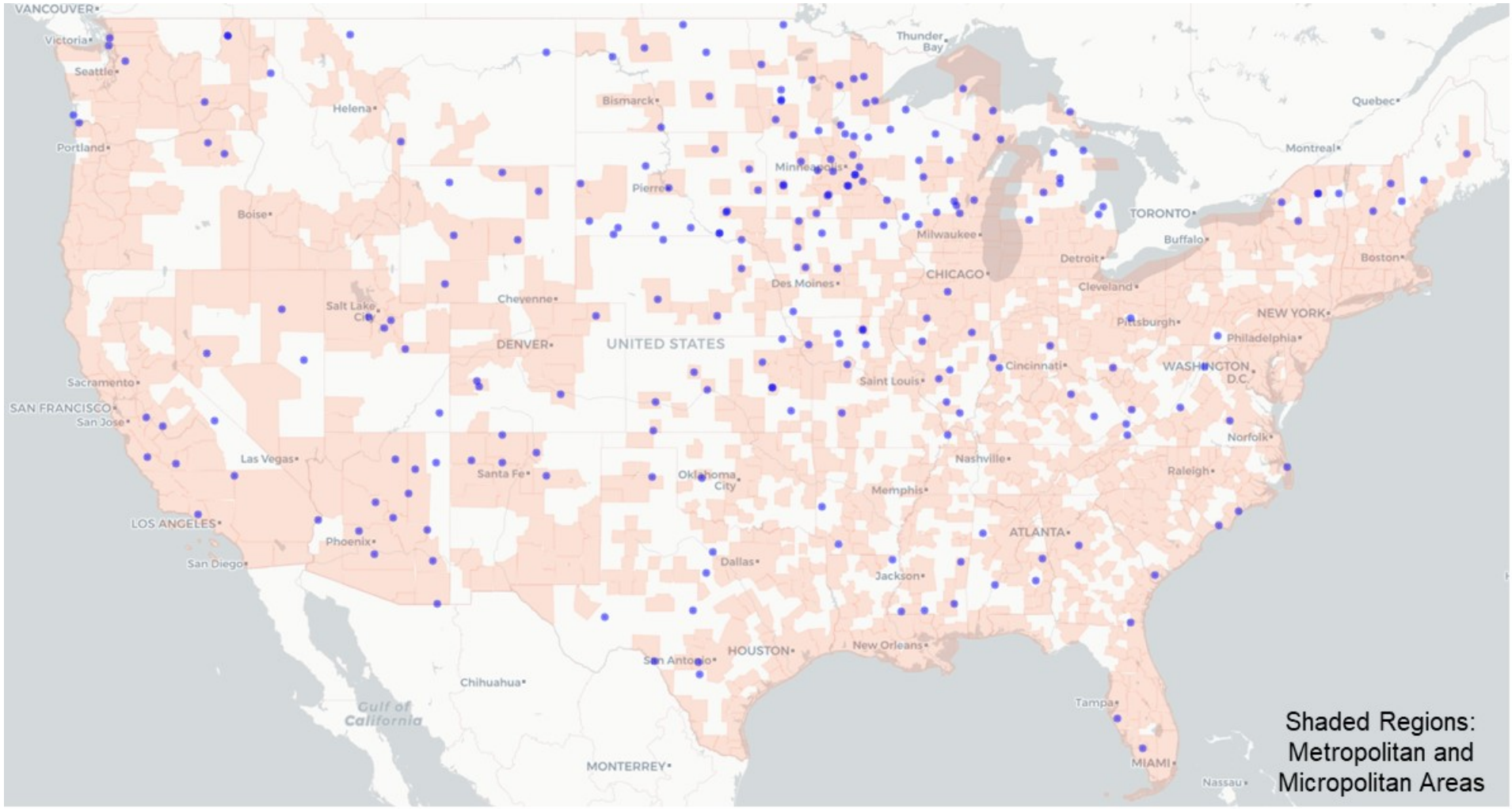
Under Alternative Method, LVPA Facilities Are Often in Non-Urban Areas



Current LVPA Facilities That Won't Be Awarded LVPA Under Alternative Method Are Concentrated in the East and in Urban Areas

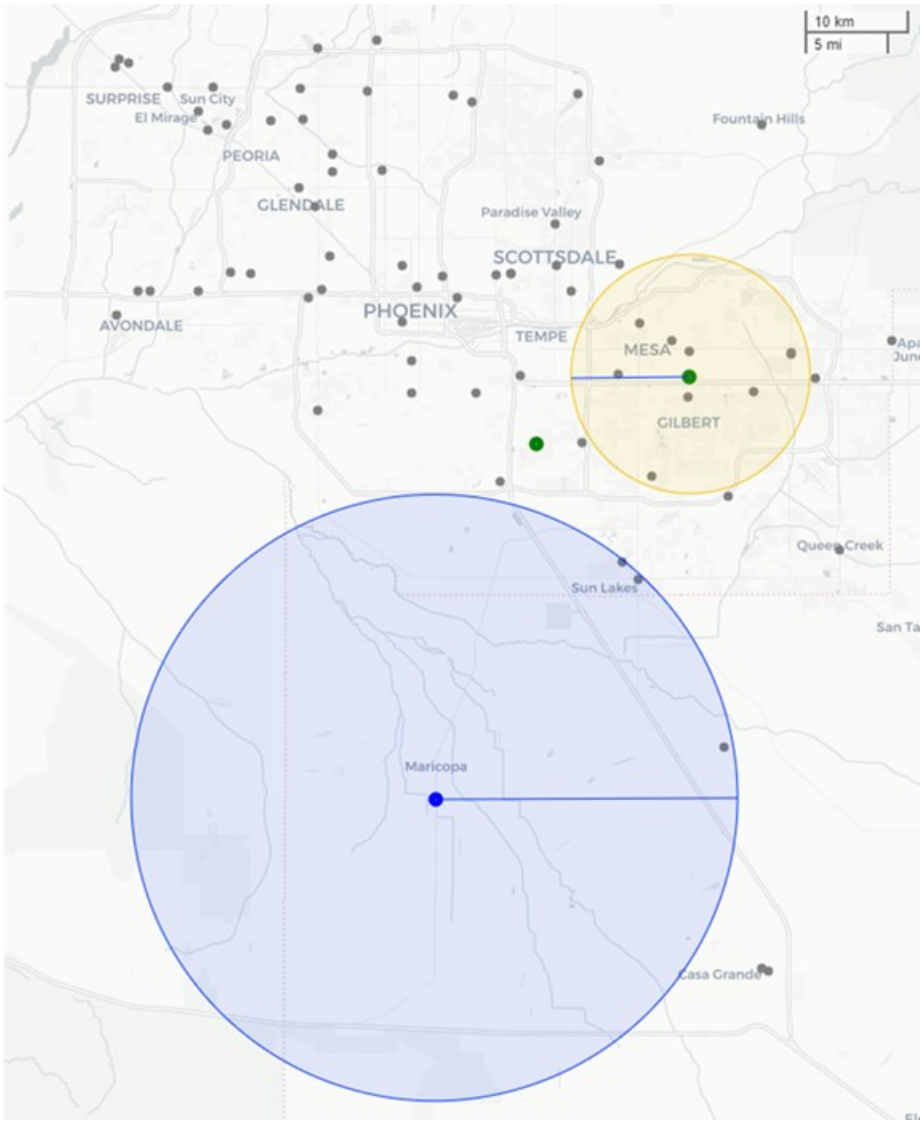


Facilities That Gain LVPA Designation Will Tend Not to be Located in Urban Areas



Facilities Newly Awarded LVPA Have Fewer Neighbors

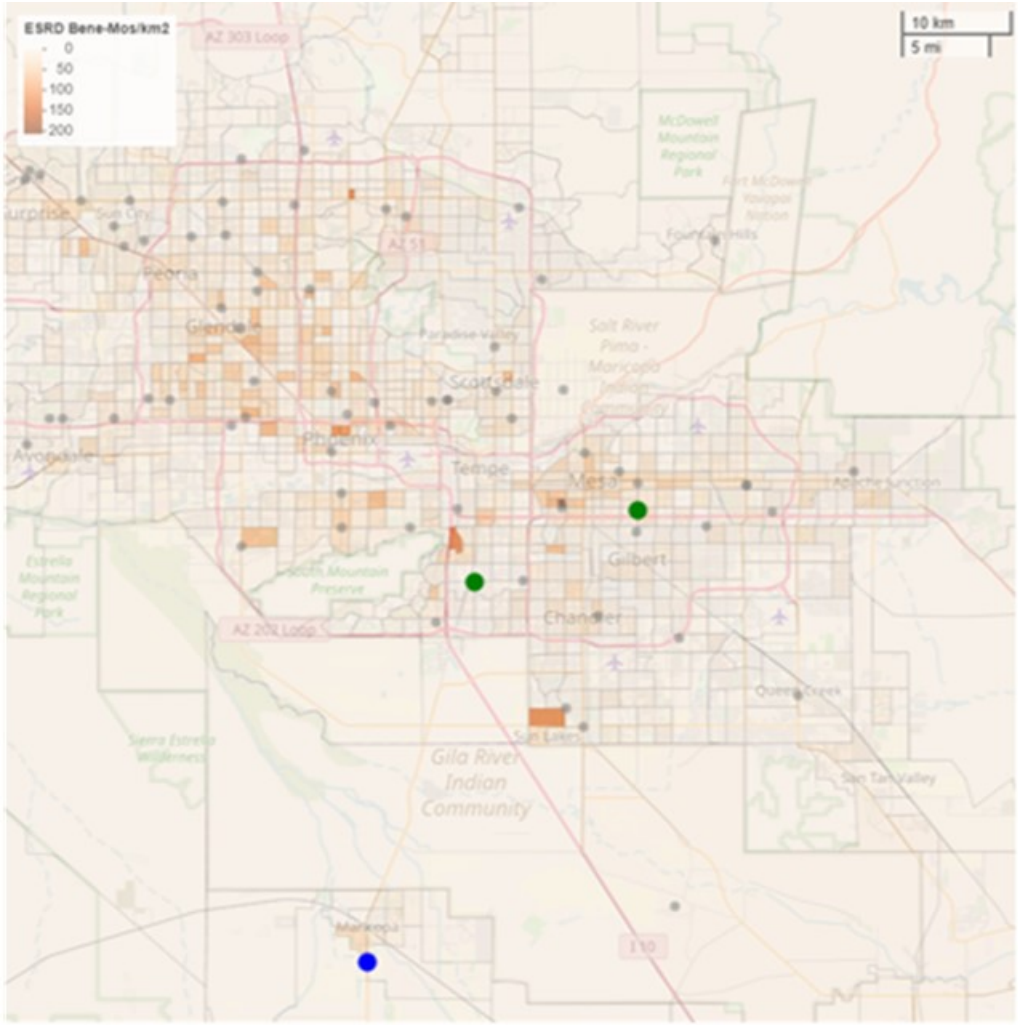
	Never LVPA	Always LVPA	*No Longer LVPA*	*Gaining LVPA*
Number of Facilities	6,244	100	***235***	***235***
Next Closest Provider				
Number of Facilities within Driving Circle	8.3	0.7	***3.0***	***1.6***



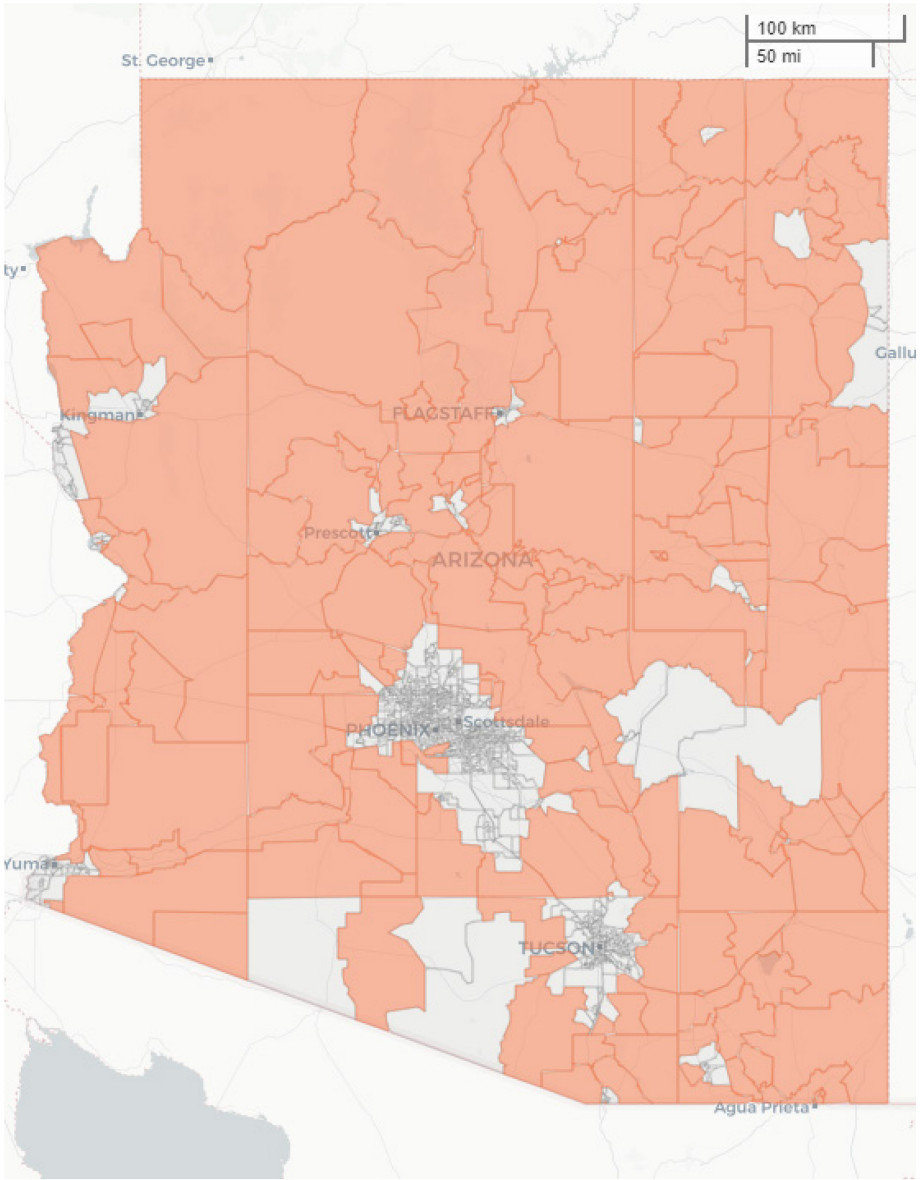
ACUMEN

Current LVPA Facilities That Would No Longer Be Rewarded LVPA Have More FFS ESRD Beneficiaries Residing Near Them

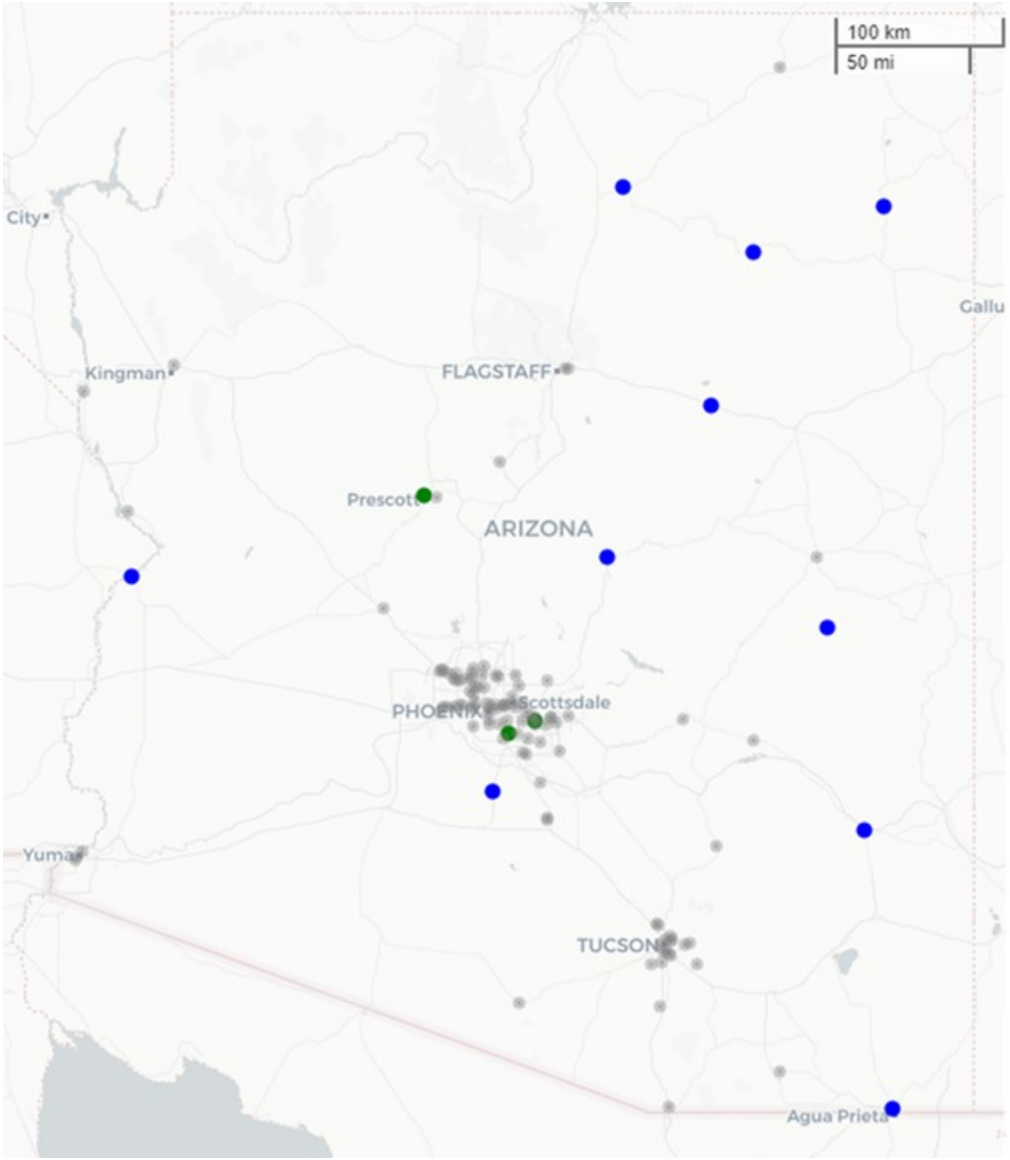
	Never LVPA	Always LVPA	*No Longer LVPA*	*Gaining LVPA*
All Facilities	6,244	100	***235***	***235***
Local ESRD Pop. Over 3-yr Period				
Average (# ESRD Patient-Month Within CCN's Std. Travel Distance)	7,391.0	609.4	***2,495.3***	***850.2***



Alternative LVPA Tract Map of Arizona



Facilities That Would No Longer Receive Adjustment Under Alternative Method Located In Urban Tracts

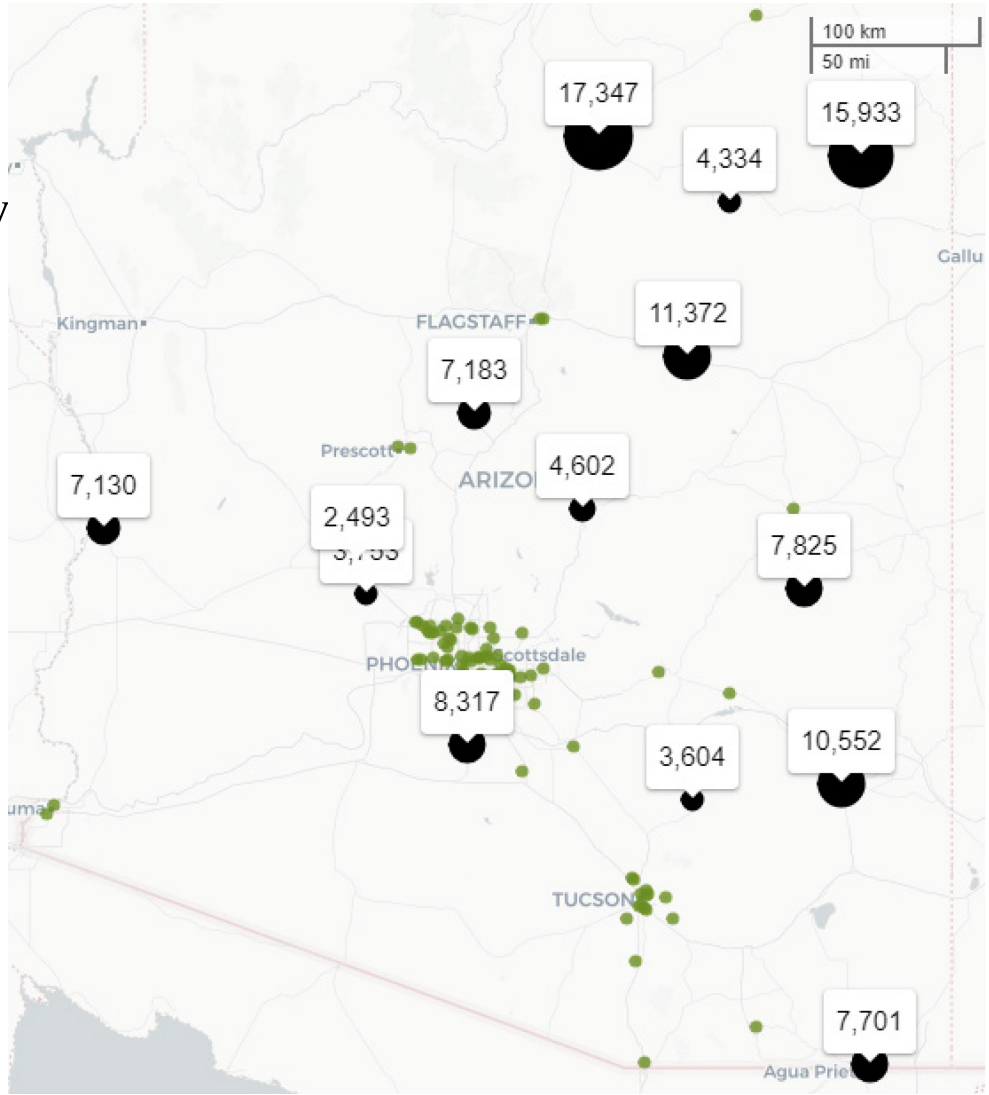


Facility Type Key:

- Gaining LVPA
- No Longer LVPA
- Never LVPA + Always LVPA

Isolated Providers Will Often Be Large Facilities

- There are cases of alternative LVPA eligible facilities that are large and serve a geographically isolated area
- Isolated facilities of this size typically provide all dialysis treatment for a large geographic area. Beneficiaries have to travel great distances to receive treatment at these facilities
  - New facilities opening in these locations alleviates travel burden



	Never LVPA	Always LVPA	*No Longer LVPA*	*Gaining LVPA*
Number of Facilities	6,244	100	***235***	***235***
Facility Size (Trt in 2016)				
Avg(Total Trt)	11,347	2,654	***2,905***	***5,931***
Avg(Total Trt - Only Freestanding)	10,516	2,548	***3,007***	***5,033***
Avg(Total Trt - Only Hospital-based)	11,392	2,725	***2,893***	***6,181***

Alternative LVPA Methodology Attempts to Account for Potential Shortcomings

- Potential failure to capture target facilities
- Instances in which beneficiaries do not drive
- New potential for gaming:
  - Locating or moving facilities into LVPA-designated tracts may be desirable, especially if payment cliffs are not addressed
- Potential misconceptions regarding alternative methodology
  - There are no isolated providers in high-population areas
  - The alternative methodology is the same as the rural provider adjustment
  - This alternative methodology would result in inefficiently duplicative facilities in every low-population Census Tract

Alternative LVPA Is Administratively Simple for Providers

- Current Method Includes:
  - Volume standards
  - Attestation process
  - Seems to miss some providers
- Alternative Method Includes:
  - List of LVPA Tracts produced and posted publicly
  - List of Facilities and their Tract produced and posted publicly
  - LVPA subsidy applied without further action by facilities
    - Dispute process if facility believes it was allocated to incorrect Tract
- Advantages
  - Administratively Simple
  - Fewer “missed” providers

Discussion Questions

- Although the alternative LVPA designation is geographically based, it results in individual facilities being granted the payment adjustment. Should a distinction other than census tract be considered?
- What criteria should be used to determine the threshold(s) of adjusted latent demand (in treatment counts) which determine LVPA eligibility?
  - E.g., a threshold of high average cost per-treatment
- What are the concerns for facilities that would lose LVPA under the alternative methodology?
- What are the TEPs concerns about the potential for gaming within the alternative LVPA?
- Acknowledging that the alternative LVPA methodology captures more isolated (and most often rural) facilities, should a separate rural adjustment be maintained?

Outline

Sessions
1. Introductions and Goals for this TEP
2. Adult Case-Mix Adjustment
3. Pediatric Case-Mix Adjustment
4. Low-Volume Payment Adjustment (LVPA)
5. Acute Kidney Injury (AKI) Payment System (PS)
6. Cost Report Revisions
7. Open Discussion

Session 5 Outline

Session Objective

- Review cost and utilization of AKI related dialysis services since the policy change of 2017 and assess the accuracy of reported data
- Discuss the effectiveness of the AKI payment system in capturing dialysis costs for this population

Session Topics

- Describe payment for outpatient dialysis for patients with AKI (AKI-D) through the AKI PS
- Review utilization and cost of AKI-D treatment
- Solicit input from TEP regarding how reported costs align with realized costs of treatment for AKI-D patients

Session Time

35 minutes

Goals of Dialysis for AKI Patients

- Promote recovery of kidney function and prevent transition to ESRD
  - Recovery reduces Medicare expenditures and taxpayer burden
- Stabilize patient health
- Promote patient wellbeing and allow patients to undergo treatment for co-existing medical conditions

Dialysis Treatment for AKI Covered By ESRD PPS Since January 1, 2017

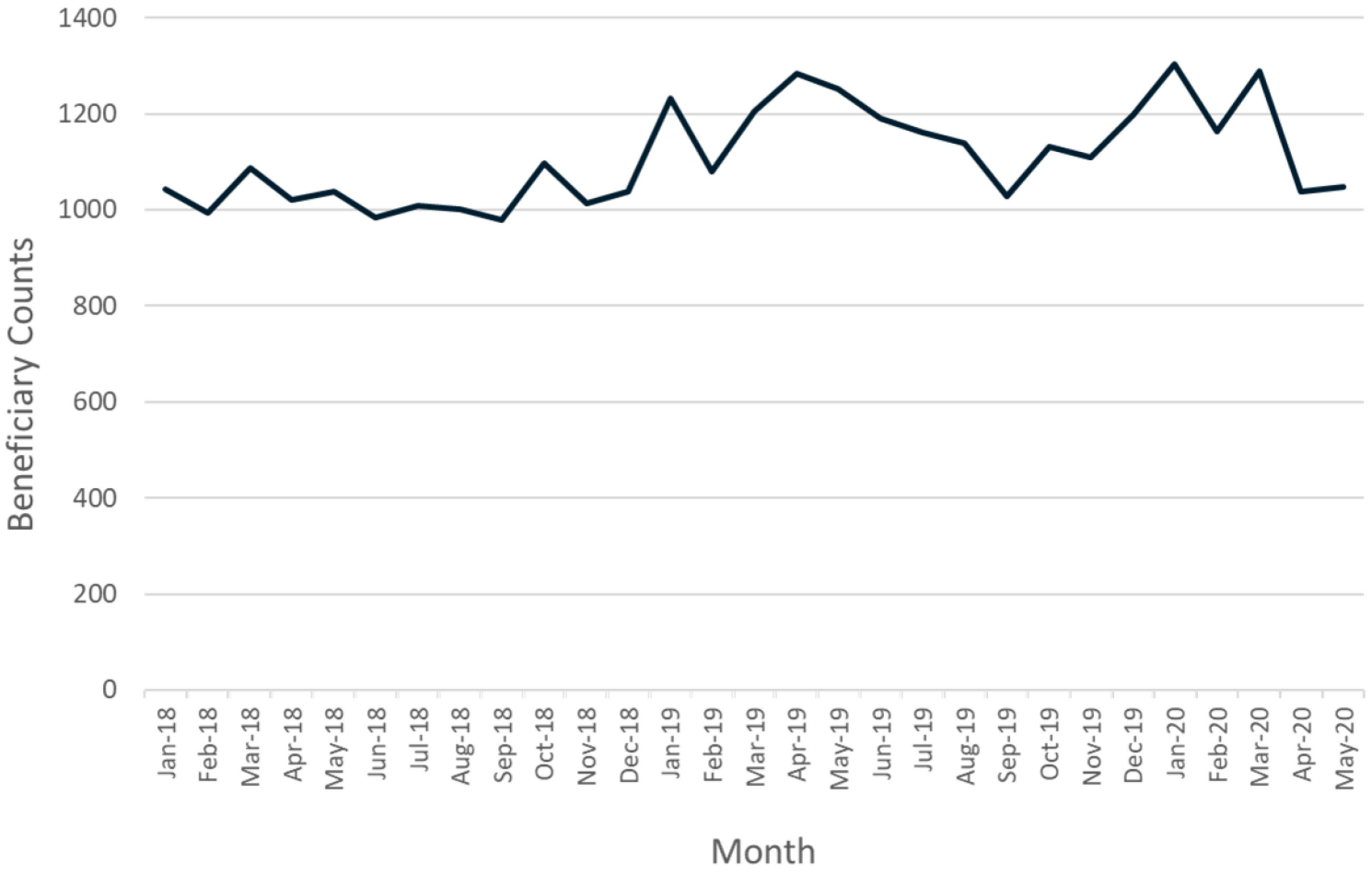
- Medicare pays outpatient dialysis facilities for AKI treatments according to the following formula:

$$\text{Payment} = ESRD\ PPS\ Base\ Rate * [Labor\ Share * Hospital\ Wage\ Index + (1 - Labor\ Share)]$$

- ESRD PPS base rate is $253.13 in 2021 ESRD PPS Final Rule
- Payments do not include ESRD adjustments/add-ons for case-mix, LVPA, rural, outlier, TDAPA, TPNIES, and self-dialysis training

Number of AKI-D Beneficiaries on 72x Claims Has Increased Since 2018

New 72x AKI-D Beneficiaries by Month – January 2018 to May 2020



AKI-D and ESRD Patient Populations Compared

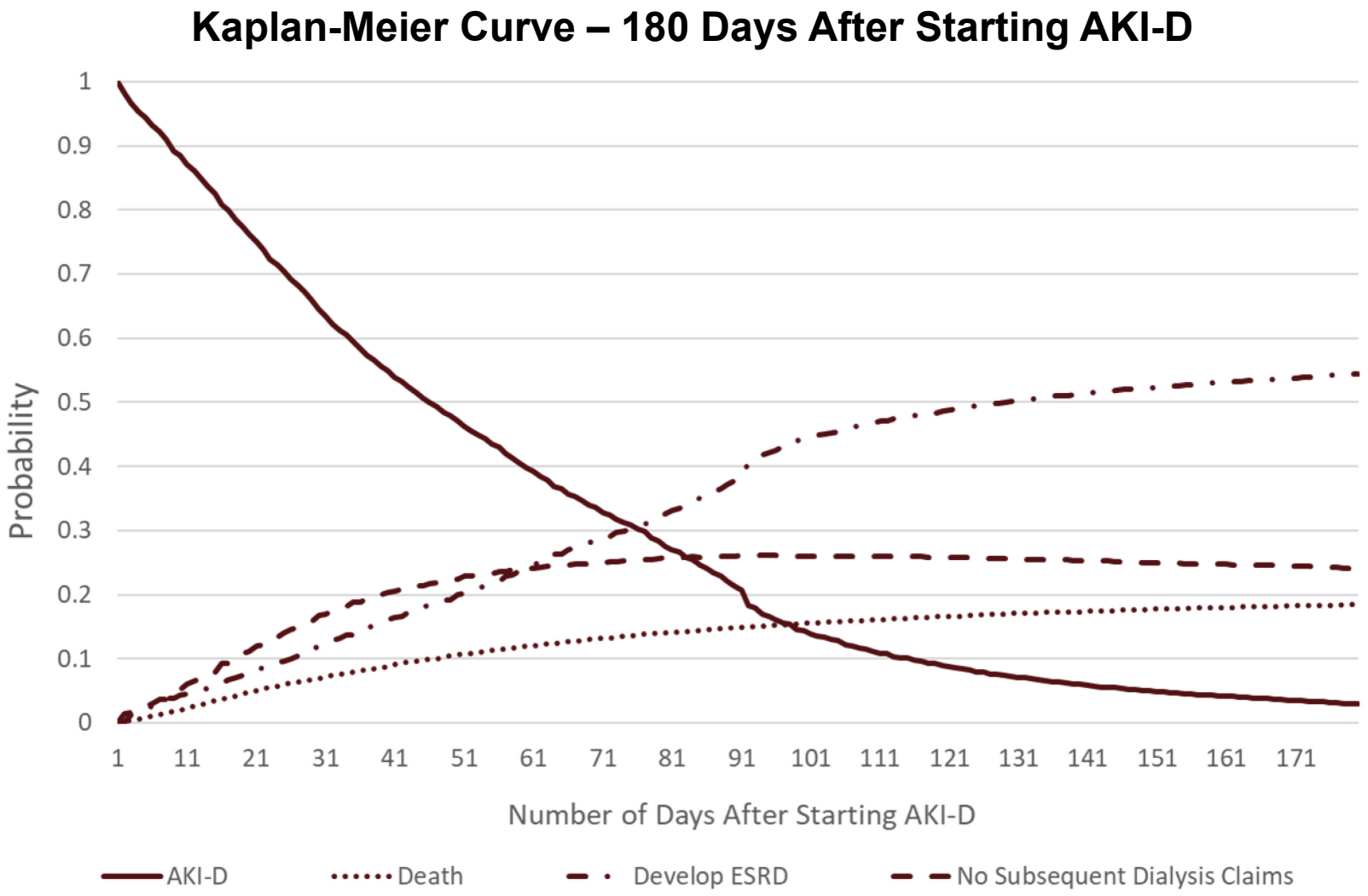
- AKI-D patients in 2019 were more likely to be white and less likely to be dual-eligible than ESRD patients
- Medicare AKI-D patients are age 65+ or disabled

Comparison of AKI-D and ESRD Beneficiaries(>65)

Characteristics	Category	AKI-D Beneficiaries	Incident ESRD Beneficiaries	1-Year Prevalent ESRD Beneficiaries
Count	# of Beneficiaries	11,017	32,056	21,645
Demographics	Average Age	75.07	75.09	75.20
	% 65 <= Age < 75	51.18%	51.00%	50.75%
	% 75 <= Age < 85	38.21%	38.21%	37.70%
	% Age >= 85	10.60%	10.79%	11.55%
	% Male	55.43%	55.48%	53.77%
	% White	76.23%	67.58%	63.04%
	% Black	14.57%	19.64%	22.75%
	% Other Races	9.20%	12.79%	14.21%
Social Risk Factors	% Rural	16.48%	16.27%	16.04%
	% Dual	24.47%	27.24%	32.42%

- Using 2019 claims data. AKI-D beneficiaries are those that started AKI-D anytime in 2019. Incident ESRD beneficiaries are those that had their first incident ESRD claim anytime in 2019. 1-year Prevalent ESRD beneficiaries are those that reached their one-year mark of receiving prevalent ESRD dialysis anytime in 2019.

25% of AKI-D Patients "Recover" and Stop Receiving Outpatient Dialysis Within 90 Days



- Patients who started AKI-D between January 2019 and October 2019

Weekly Treatment Frequency Is Similar Across AKI-D and ESRD Patients

- No limits on number of AKI treatments allowed for the monthly billing cycle
  - limit of one treatment per day across settings
- The tables below compare the average weekly in-facility treatment frequency for AKI and Incident ESRD beneficiaries (age 65+) in 2019.

AKI-D Weekly Dialysis Frequency Distribution for Age 65+ Beneficiaries in 2019

Weeks	Beneficiary-Week Counts	Mean	Min	P_1	P_5	P_25	Median	P_75	P_95	P_99	Max
Weeks 1-4	29,306	2.78	0	0	1	3	3	3	3	4	7
Weeks 5-8	20,400	2.69	0	0	1	3	3	3	3	4	7
Weeks 9-12	13,283	2.68	0	0	1	2	3	3	3	4	7

Incident ESRD Weekly Dialysis Frequency Distribution for Age 65+ Beneficiaries in 2019

Weeks	Beneficiary-Week Counts	Mean	Min	P_1	P_5	P_25	Median	P_75	P_95	P_99	Max
Weeks 1-4	106,488	2.82	0	0	1	3	3	3	4	5	7
Weeks 5-8	102,436	2.73	0	0	0	3	3	3	3	4	7
Weeks 9-12	100,875	2.69	0	0	0	3	3	3	3	4	7

1-Year Prevalent ESRD Weekly Dialysis Frequency Distribution for Age 65+ Beneficiaries in 2019

Weeks	Beneficiary-Week Counts	Mean	Min	P_1	P_5	P_25	Median	P_75	P_95	P_99	Max
Weeks 1-4	70,023	2.85	0	0	2	3	3	3	3	4	6
Weeks 5-8	70,081	2.79	0	0	2	3	3	3	3	4	6
Weeks 9-12	70,171	2.79	0	0	1	3	3	3	3	4	7

- AKI-D beneficiaries are those that started AKI-D anytime in 2019. Incident ESRD beneficiaries are those that had their first incident ESRD claim anytime in 2019. 1-year Prevalent ESRD beneficiaries are those that reached their one-year mark of receiving prevalent ESRD dialysis anytime in 2019.

Freestanding Facility Cost Reports Allow for Calculation of AKI-D Treatment Costs

- Cost reports were updated to include AKI on February 20, 2018
- Treatment costs for AKI-D patients can be calculated separately from treatment costs for ESRD patients using freestanding facility cost reports (Form CMS-265-11)
  - Hospital-based cost reports do not allow for separation of AKI-D and ESRD
- All categories of costs (capital, labor, administrative, drugs, labs, and supplies) are itemized on Worksheet B/B-1 and separated into AKI-Hemodialysis (HD) and AKI-Intermittent Peritoneal Dialysis (IPD)
- Treatment counts for AKI-HD and AKI-IPD are reported separately on Worksheet C

Reported Per-Treatment for AKI-D Exceeds That for ESRD

2019 Average Cost Per-Treatment (AKI vs. ESRD)
By Facility Characteristics

Facility Characteristics		Facility Count	Average Cost Per-Treatment	
			AKI	ESRD
Overall		5,026	$ 296	$ 267
Rural	Yes	830	$ 292	$ 257
	No	4,188	$ 296	$ 268
For Profit	Yes	4,666	$ 297	$ 266
	No	352	$ 279	$ 268
Census Region	East North Central	835	$ 290	$ 266
	East South Central	488	$ 297	$ 254
	Middle Atlantic	505	$ 281	$ 286
	Mountain	201	$ 272	$ 261
	New England	172	$ 301	$ 280
	Pacific	515	$ 413	$ 274
	South Atlantic	1,426	$ 288	$ 254
	West North Central	295	$ 298	$ 272
	West South Central	581	$ 292	$ 273
Facility Size (Annual Treatments)	<4000	834	$ 468	$ 414
	4000-9999	2,122	$ 296	$ 276
	>=10000	2,061	$ 271	$ 251
Ownership Type	Independent	175	$ 281	$ 267
	Large Dialysis Facility	4,225	$ 307	$ 263
	Regional_chain	617	$ 276	$ 292

- Treatment costs are calculated from freestanding facility cost reports (Form CMS-265-11). Hospital-based cost reports do not allow for the separation of AKI-D and ESRD.

AKI-D Treatments Have Higher Labor and Capital Costs Than ESRD Treatments

- Freestanding facility cost reports can be used to break down costs by the six cost components for AKI and ESRD treatments

2019 Average Cost Per-Treatment (AKI vs. ESRD Patients) By Cost Categories

Cost Categories	Average Cost Per-Treatment	
	AKI	ESRD
Total Cost	$ 296	$ 267
CR Capital Cost	$ 59	$ 49
CR Labor Cost	$ 109	$ 86
CR Admin Cost	$ 70	$ 67
CR Drug Cost	$ 0.9	$ 1.3
SB Drug Cost	$ 28	$ 31
CR & SB Lab Cost	$ 4.2	$ 3.4
CR & SB Supply Cost	$ 23	$ 29

- CR = Composite Rate
- SB = Separately Billable

ESRD Patients Use More Separately Billable Drugs Than AKI-D Patients

- The table below compares formerly separately billable (FSB) costs per-treatment of ESRD and AKI patients. The costs are obtained by multiplying utilization units on 72x claims by prices for each FSB item separately.

2019 Costs of Formerly Separately Billable Items Per-Treatment (AKI vs. ESRD Patients, age 65+)

Formerly Separately Billable Items Category	Average Costs Per-Treatment		Median Costs Per-Treatment	
	AKI	ESRD	AKI	ESRD
Drugs (Injectable)	$ 8.2	$ 32.1	$ 4.4	$ 17.3
Drugs (Oral)	$ 0.0	$ 7.8	$ -	$ -
Labs	$ 8.1	$ 5.8	$ 5.7	$ 5.4
Supplies	$ 0.5	$ 0.5	$ 0.4	$ 0.4

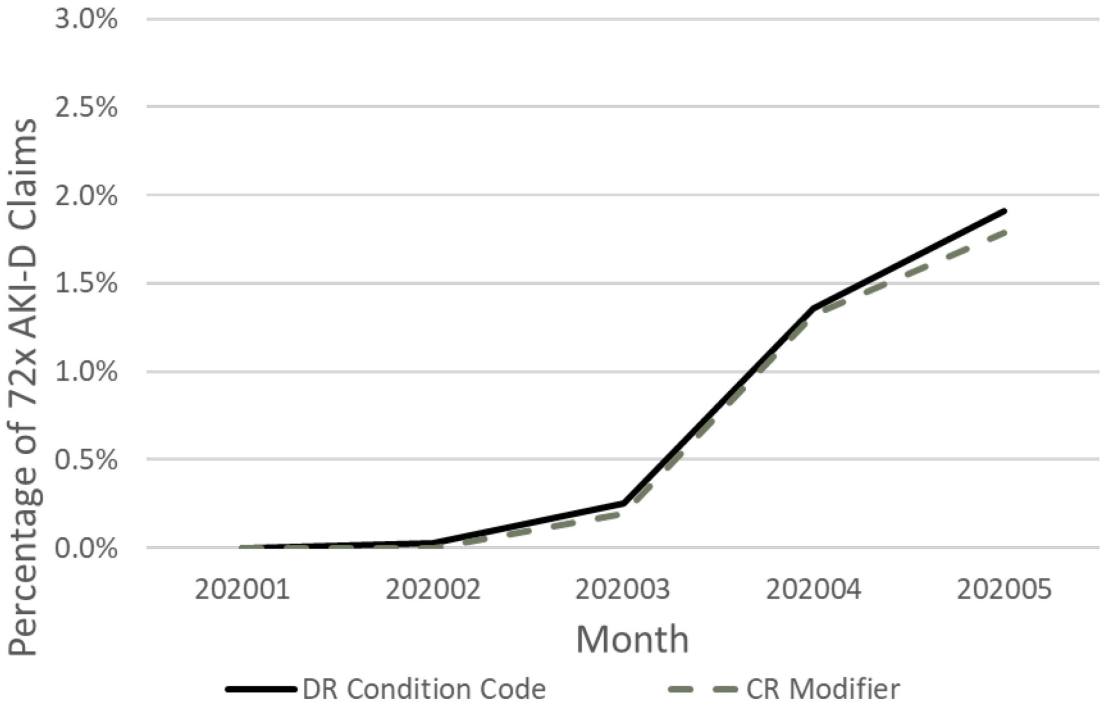
In-Center Hemodialysis Is the Predominant Modality for AKI-D Patients

- Medicare does not pay for home dialysis treatments for AKI-D patients
- All 72x AKI-D treatments observed in April and May 2020 were in-center hemodialysis
- Stakeholders advocate for ESRD PPS coverage for home dialysis for AKI-D beneficiaries
  - Especially during current Public Health Emergency

Limited Beneficiaries Receive Treatment Outside Dialysis Facilities during the PHE

- Dialysis Facilities Are Temporarily Allowed to Furnish Dialysis to Beneficiaries in Nursing Homes
  - Dialysis facilities indicate this by including either the DR (disaster related) condition code or CR (catastrophe/disaster related) modifier

Percentage of 72x AKI-D Claims With Either a DR Condition Code or CR Modifier by Month



AKI-D Beneficiaries With CR Condition Code or DR Modifier Do Not Exhibit Different Treatment Patterns

AKI-D Weekly Dialysis Frequency Distribution (Jan - May 2020, Aged Beneficiaries)

Group #	Group Description	Unique Beneficiary Counts	Beneficiary-Week Counts	Mean	P_1	P_5	P_25	Median	P_75	P_95	P_99
1	Patients with CR/DR Claims During PHE	65	441	2.60	0	1	2	3	3	3	4
2	Group (1) Patients Before PHE*	24	136	2.70	0	1	2	3	3	3	4
3	All Other Patients During PHE	3369	17,501	2.71	0	1	3	3	3	3	4

* If Has AKI-D

- The PHE is considered the period from 3/13/2020 to study end date (5/31/2020). The White House declared a national emergency on 3/13/2020.

Discussion Questions

- Are the costs reported for treating AKI-D patients accurate?
  - What additional data need to be collected?
  - Are there other items related to AKI-D that should be reported on cost reports or claims?
- Does treatment frequency vary among AKI-D patients
  - Between AKI-D and ESRD patients?
  - Are these variations observable in claims?
  - If not, can they be captured in cost reports?
- Is there a subset of AKI-D patients for whom home dialysis would be appropriate?
  - What are the benefits and drawbacks of allowing AKI-D patients to receive home dialysis?
  - Are there obstacles preventing variation in dialysis treatment for AKI-D, if medically preferred? If so, how could these be overcome?

Discussion Questions (Cont'd)

- Does the payment system sufficiently incentivize providers to maximize efforts for recovery?
  - If not, what structural changes to the PS would foster such efforts while supporting providers financial viability?
- Please describe the impact of COVID-19 on the incidence of AKI-D treatment in your facility
  - How has AKI-D treatment changed during the PHE?
- What types of practice changes resulting from the PHE are not adequately reflected in claims and/or cost reports?
  - For AKI-D patients
  - For ESRD patients
- Are costs related to 72x dialysis provided in nursing homes reflected in cost reports?
  - If not, how could cost reports be changed to capture this?

Outline

Sessions
1. Introductions and Goals for this TEP
2. Adult Case-Mix Adjustment
3. Pediatric Case-Mix Adjustment
4. Low-Volume Payment Adjustment (LVPA)
5. Acute Kidney Injury (AKI) Payment System (PS)
6. Cost Report Revisions
7. Open Discussion

Session 6 Outline

Session Objective

- To obtain input from panelists on implementing specific cost report changes in support of a refined case-mix adjustment model

Session Topics

- Describe how existing cost report data can be used to obtain per-treatment total costs
- Present alternative cost report changes
- Demonstrate how the changes facilitate a refined model
  - Discuss an additional suggested reporting change
- Describe potential changes to reporting of pediatric data on cost reports to identify currently unreported costs and better differentiate pediatric costs from adult costs

Session Time

45 minutes

Components of Total Dialysis Treatment Costs

Capital	Buildings and fixtures, movable equipment, operating and maintenance of plant and equipment, dialysis treatment equipment, housekeeping
Labor	Salaries and benefits for direct patient care
Administrative	Facility costs not directly related to the provision of dialysis care, such as accounting, legal services, and recordkeeping
Drugs	Drugs used to treat or manage a condition associated with dialysis treatment
Labs	Routine laboratory tests for dialysis patients
Supplies	All supplies used to furnish direct dialysis care, such as tubes, syringes, and dialysate

- Together these comprise Composite Rate Costs
- These are the costs reported in Cost Reports

CR Costs Constitute Nearly 90% of Treatment Cost

Cost Category from Cost Reports	Freestanding and Hospital-Based Facilities (5,277)	
	Average Facility Cost per-Treatment	Percent of Total Per-Treatment Costs
Total Treatment Cost	$287.15	100.00%
Total CR Costs	$255.71	89.05%
Total FSB Costs	$31.44	10.95%

Composite Rate Costs Are Not Itemized on Claims

- Total Treatment Costs = Composite Rate (CR) costs + Formerly Separately Billable (FSB) costs
- FSB costs are comprised of drugs, labs and a small fraction of supply costs
- CR costs are comprised of capital, labor, administrative, drug, lab and supply costs
- CR costs are not itemized on claims; are available only from cost reports at the facility level
- Differentiating CR costs essential to establishing how costs vary at the individual treatment level

Duration of Treatment Provides Framework for Allocating Composite Rate (CR) Costs

- Patient-level differences in CR costs within a facility are attributable to (1) differences in treatment duration and (2) differences in costs unrelated to treatment duration
  - All else equal, a longer dialysis treatment will have higher CR costs
  - Cost reports can be used to derive cost per minute of dialysis session time for designated groups of patients, such as pediatric patients or patients with HBV infection
  - Cost report data can be combined with treatment times from claims to infer differences in CR cost across patient-months due to (1) above
- Recommended cost report revisions will facilitate disaggregation of CR costs related to (1) from those related to (2)
- Goal of cost report revisions is to facilitate meaningful disaggregation of CR costs with minimum provider reporting burden

Method Currently Used to Compute Cost per Beneficiary-Month

Facility A's costs (scaled to 72x claims)

Composite Rate (CR) Cost	Formerly Separately Billable (FSB) Drug/Lab/Supply Cost
Distribute through treatment duration	**Convert through facility-level Cost-to-Charge Ratio (modality specific)**
CR Cost for beneficiary-month 1	FSB Drug/Lab/Supply Cost for beneficiary-month 1
CR Cost for beneficiary-month 2	FSB Drug/Lab/Supply Cost for beneficiary-month 2
CR Cost for beneficiary-month 3	FSB Drug/Lab/Supply Cost for beneficiary-month 3
…	…
…	…
CR Cost for beneficiary-month N	FSB Drug/Lab/Supply Cost for beneficiary-month N

Costs for each beneficiary-month at Facility A

Obtaining Total Cost and Cost per-Treatment: New Method and Assumptions

- Focus on in-facility hemodialysis (HD), home HD and home peritoneal dialysis (PD)
- Within each facility, all beneficiary-months assumed to have the same composite rate (CR) cost per minute across three modalities. This CR cost per minute can vary across different facilities
- For each provider:
  - Obtain total dialysis minutes for in-facility and home HD
    - From 72x claim treatment counts and HD minutes from CROWNWeb
  - Estimate total dialysis minutes for home PD
    - From 72x claim treatment counts and national average HD minute per-treatment
  - Derive total dialysis minutes across all three modalities
- For each provider-beneficiary-month with in-facility HD, home HD, or home PD:
  - CR cost = provider-level total CR cost / provider's total dialysis minutes * total dialysis minutes for the provider-beneficiary-month
- Use formerly separately billable (FSB) charges on claims and Cost-to-Charge Ratios specific to FSB categories to calculate FSB costs
- Add CR cost to FSB cost to obtain total cost for the provider-beneficiary-month
- Provider-beneficiary-month level cost per-treatment = total cost / total treatment counts in the month

What We're Trying to Accomplish by Revising Cost Reporting

- Improve reporting of CR Costs? Yes
  - Not reported for patient or treatment-type subgroups with precision on cost reports
  - Underlying assumption from the previous slide: within-facility per-minute costs are the same across in-center HD, home HD and home PD
  - Determine which CR costs important enough to justify recommended reporting changes
- Change the reporting of FSB Costs? No
  - Reported with adequate precision on claims
  - Variation in FSB can be determined at the treatment level
- Recommended changes will stratify targeted CR costs by modality and patient-type to relax the above assumption (i.e., if they show that per-treatment costs do vary across modalities)

Two Basic Goals of Cost Report Revisions

1. Determine which component costs of the Composite Rate (CR) can be attributed to each modality and which are shared equally across modalities (by treatment)
2. Within each modality, determine which fraction of CR costs vary with duration of treatment

Implication of these changes:

- Total CR costs will be apportioned to modalities based on real reported costs rather than crude accounting rules
- CR cost per minute will be allowed to vary across modalities (within a facility)
- Assuming home PD and home HD CR costs do not vary across treatments according to duration, this new information is sufficient for improved allocation of CR costs to the treatment level (beneficiary-provider-month)

Differentiating Costs Will Improve Cost Computations

- Changes to three CR components have been recommended by Acumen to add specificity to cost reports
  - Capital costs for Dialysis Machines and related equipment
  - Direct Patient Labor Costs
  - Administrative and Managerial Costs
- These are changes that
  - Reflect costs most likely to vary with treatment time or
  - Are insufficiently differentiated on current cost report

*In 2021, claims will collect machine reported minutes of dialysis spanning all treatments on a single claim period

Changes to Reporting of Capital-Related Dialysis Machine Costs

- Currently unable to differentiate machine costs by treatment modality.
- Solution: Differentiate costs of dialysis and related machines
  - By location: in-facility or home
  - By modality: In-facility HD, in-home HD, in-home PD
  - Will provide more accurate estimates of the overall cost of dialysis by modality
  - Will allow precise computation of capital costs by modality and therefore allow variation in per-minute capital cost across modalities within the same facility

Capital-Related Dialysis and Water Treatment Machines

- Item definition
  - Itemize each machine and stratify by setting and modality
    - Home or in-facility
    - Home HD, Home PD, In-facility HD
  - Include purchase, depreciation and rental costs
- Location in cost report
  - Expand Worksheet A, Line 6
    - Itemize on Worksheet A-1
    - Add specificity to instructions regarding what costs are to be itemized
- Format
  - Lines could take following form
    - 0601: machine related capital, rental or maintenance in-facility HD
    - 0602: machine related capital, rental or maintenance in-home HD
    - 0603: machine related capital, rental or maintenance in-home PD
- Metric: Dollars actually spent
  - Do not use accounting rule to allocate costs across modalities

Recommended Revisions to Capital Costs: Dialysis Machines and Related Equipment

4290 (Cont.) FORM CMS-265-11

RECLASSIFICATION AND ADJUSTMENT OF TRIAL BALANCE OF EXPENSES

		FACILITY HEALTH CARE COSTS	SALARIES		
			PHYSICIAN COMPENSATION	OTHER	OTHER
			1	2	3
		COST CENTERS			
1	0100	Cap Rel Costs-Bldg & Fixt			
2	0200	Cap Rel Costs-Mvble Equip			
3	0300	Operation & Maintenance of Plant			
4	0400	Housekeeping			
5		Subtotal (sum of lines 1 through 4)*			
6	0600	Machine Cap-Rel or Rental & Maint*			
6.01	601	Machine Cap-Rel or Rental & Maint In-Facility HD			
6.02	602	Machine Cap-Rel or Rental & Maint In-Home HD			
6.03	603	Machine Cap-Rel or Rental & Maint In-Home PD			
7	0700	Salaries for Direct Patient Care*			
8	0800	EH&W Benefits for Direct Pt. Care			
9	0900	Supplies*			

- Acumen's recommendations for capturing capital-related costs for dialysis machines include the addition of line items 6.01, 6.02, and 6.03 in the table above

Changes to Reporting of Direct Patient Care Labor Costs

- Currently FTEs for job categories not differentiated by modality
- To remedy that, we propose to
  - Identify labor costs most likely to vary with duration of treatment
  - Use up-to-date staffing designations for outpatient dialysis facilities
  - Use BLS occupational categories for outpatient care centers
  - Will be able to correlate higher labor costs (for specific types of staff) with certain categories of patients

Direct Patient Care Costs

- Use BLS occupational categories for outpatient care centers rather than labor categories for inpatient hospitals
- Update labor categories used to correspond with current dialysis facility practices/add select clinical categories to existing listing of FTEs
  - Pharmacists
  - Nutritionists and dieticians (currently only dieticians are listed)
  - Intermediate level providers
  - RNs with varying credentials
- Add columns for Lines 23-31 to separately report home dialysis FTE from in-facility FTE for each direct patient care staff type employed

Recommended Revisions to Direct Patient Labor FTE Reporting

RENAL DIALYSIS FACILITY -- NUMBER OF EMPLOYEES (FULL TIME EQUIVALENTS)						
21	Enter the number of hours in your normal work week					
		Staff		Contract		TOTAL
		Home	In-center	Home	In-center	
		1	2	3	4	5
22	Physicians					
23	Registered Nurses with varying credentials					
24	Licensed Practical Nurses					
25	Nurses Aides					
26	Technicians					
27	Social Workers					
28	Nutritionists and dieticians					
29	Pharmacists					
30	Intermediate level providers					
29	Administrative					
30	Management					
31	Other (Specify)					

- Acumen's recommendations for reporting of direct patient labor in the table above include modifications to line items 23 and 28, as well as the addition of line items 29 and 30. Acumen also recommends differentiating Staff and Contract columns by home and in-center dialysis.

Changes to Reporting of Management and Administrative Labor Costs

- Existing categories do not adequately differentiate high cost management from lower cost administrative and clerical functions
  - Purpose of this change is to better estimate this component of Composite Rate Costs
  - Bring management and administrative categories up-to-date with use of BLS categories for outpatient care centers
  - Not directly related to duration of treatment
- With better data we can determine
  - how management and administrative costs are differentially allocated across
    - Treatments and
    - Facilities (by region and treatment-type specialization)

Differentiate Managerial from Administrative Labor Categories

- Add the following labor categories (and corresponding BLS occupational codes) to differentiate higher paid management from lower paid administrative labor costs
  - Management Occupations
    - Business and Financial
  - Operations Occupations
    - Office and Administrative
    - Support Workers
  - Computer Systems
    - Programmers and Analysts

Recommended Revisions to Management and Administrative FTE Reporting

RENAL DIALYSIS FACILITY -- NUMBER OF EMPLOYEES (FULL TIME EQUIVALENTS)						
21	Enter the number of hours in your normal work week					
		Staff		Contract		TOTAL
		Home	In-center	Home	In-center	
		1	2	3	4	5
22	Physicians					
23	Registered Nurses with varying credentials					
24	Licensed Practical Nurses					
25	Nurses Aides					
26	Technicians					
27	Social Workers					
28	Nutritionists and dieticians					
29	Pharmacists					
30	Intermediate level providers					
~~29~~	~~Administrative~~					
~~30~~	~~Management~~					
31	Business and Financial Occupations					
32	Office and Administrative					
33	Facility Support Workers					
34	Programmers and Analysts					
35	Other (Specify)					

- Acumen's recommendations for labor categories related to management and administrative include line items 31, 32, 33, and 34 in the table above. The table includes changes related to direct patient care introduced on previous slides.

Reporting Change to Separate Composite Rate from Separately Billable Supplies

- Supplies comprise approximately 10% of CR costs
  - CR and FSB supplies not differentiated on cost report
- Use of supplies is related to duration of treatment
- Drugs already differentiated on cost report
- Labs contribute little to CR costs
- Add separate column differentiating composite rate from separately billable supplies (Worksheet B/B-1, Column 7)
- Update the list of dialyzers (currently reported on Worksheet S-1; consider moving to Worksheet B as a separate line item)

Recommended Revision to Separate Supplies into Composite Rate and Separately Billable

02-18 FORM CMS-265-11 4290 (Cont.)

COST ALLOCATION - GENERAL SERVICE COSTS								PROVIDER CCN:	PERIOD: From: To:	WORKSHEET B
								SUPPLIES		
		NET EXPENSE FOR COST ALLOC. (from Wkst. A, col. 8)	CAP REL OP* & MAINT & HOUSE	STEP DOWN OF COL. 2	MACH CAP REL OR REN & MAINT	SALARIES FOR DIR PT CARE	EH&W BENE FOR DIR PT CARE	COMPOSITE RATE	SEPARATELY BILLABLE	LABORATORY
		1	2	3	4	5	6	7	8	9
1	COSTS TO BE ALLOCATED									
2	Drugs Included in Composite Rate									
3	ESAs									
4	ESRD Related Other Drugs									
4.01	AKI Related Other Drugs									
5	Non-ESRD Related Drugs, Supplies & Lab									
5.01	AKI Non-Renal Related Drugs, Supplies & Lab									
6	Whole Blood and Packed Red Blood Cells									
7	Vaccines									
	REIMBURSABLE COST CENTERS									
8	Maintenance-Hemodialysis									

- Acumen's recommendation to separate supplies by composite rate and separately billable is included in the table above

Considering Cost Report Changes for Pediatric Dialysis

- Pediatric CR costs not differentiated from adult costs on hospital cost reports
  - Suggest changes to hospital-based cost reporting for pediatric dialysis
- What can we learn from itemized reporting on freestanding cost reports?
  - Present computational method for comparing Composite Rate (CR) component costs for pediatric dialysis to adult dialysis, by modality
  - Present results of this analysis

What Can We Learn from Itemized Pediatric Costs on Freestanding Facility Cost Reports?

- To investigate, use CY 2019 freestanding facilities' cost reports (RNL-265-11)
- Pull all Composite Rate (CR) cost components (capital, labor, administrative, CR drug, FSB drug, lab, and supply) for each modality, stratified for adult and pediatric patients
- Pull total treatment counts (HD-equivalent) for each modality, stratified for adult and pediatric patients
- For each facility, compute total or component-specific cost per-treatment by dividing the component cost (for adult or pediatric) by the specific HD-equivalent treatment counts (for adult or pediatric)
  - Stratify by modality, when applicable
- For each facility reporting both adult and pediatric costs, compute ratio of pediatric cost per-treatment to adult cost per-treatment

Freestanding Facilities Report Some Variation of Pediatric Costs Relative to Adult Costs

Ratio of Pediatric Cost per-Treatment to Adult Cost per-Treatment (2019), Restricted to Freestanding Dialysis Facilities

Cost Categories	# Facilities with both adult and pediatric costs	Mean	Std	P1	P5	P10	P25	P50	P75	P90	P95	P99
Total Cost	150	1.58	3.26	0.10	0.51	0.66	0.89	1.00	1.09	1.36	3.53	22.44
CR Capital Cost	133	0.86	0.36	0.14	0.20	0.45	0.71	0.85	1.02	1.14	1.22	1.67
CR Labor Cost	130	1.05	0.49	0.11	0.24	0.37	0.83	1.00	1.34	1.64	1.80	2.32
CR Admin Cost	150	1.70	3.76	0.11	0.49	0.65	0.88	1.01	1.10	1.39	4.34	26.31
CR Drug Cost	109	0.98	0.24	0.32	0.60	0.71	0.98	1.00	1.01	1.20	1.26	1.65
SB Drug Cost	131	0.97	0.20	0.18	0.54	0.78	0.94	1.00	1.01	1.13	1.23	1.45
CR & SB Lab Cost	130	0.99	0.12	0.57	0.82	0.90	0.99	1.00	1.01	1.07	1.13	1.33
CR & SB Supply Cost	148	7.30	32.76	0.00	0.02	0.03	0.04	0.99	1.88	4.45	25.46	192.29

Many Freestanding Facilities May Not Differentiate Between Adult and Pediatric Costs

Percent of Freestanding Dialysis Facilities Likely Not Distinguishing Between Adult and Pediatric Costs* (2019)

Cost Categories	All 3 Modalities	In-center HD	Home HD	Home PD
Total Cost	13%	29%	25%	29%
CR Capital Cost	0%	16%	25%	22%
CR Labor Cost	0%	40%	25%	43%
CR Admin Cost	0%	28%	25%	33%
CR Drug Cost	1%	79%	100%	39%
SB Drug Cost	1%	95%	75%	44%
CR & SB Lab Cost	1%	86%	67%	45%
CR & SB Supply Cost	0%	45%	75%	38%

*If a facility's pediatric cost per-treatment is less than 2% different from adult cost per-treatment, the facility is categorized as "likely not distinguishing between adult and pediatric when reporting costs."

Suggested Pediatric Cost Report Changes

- Two categories of cost report changes to consider:
  1. those that differentiate pediatric CR costs from adult CR costs
  2. those that allow for differentiation of CR costs within a facility's pediatric patient population
- Pediatric dialysis providers have recommended the following changes be made to the cost report
  - Additional direct patient care labor categories
  - Further specification of pediatric supplies
- These suggested revisions apply largely to the hospital cost report, which does not differentiate pediatric from adult dialysis patients
  - Approximately 2/3 of pediatric dialysis treatments take place in the hospital/medical center setting
  - Most of this reporting can already be done on the existing freestanding facility cost report

Add More Specificity to Pediatric Direct Patient Labor Staffing FTEs

- Changes would be made to Worksheet S-1, lines 21-31(Renal Dialysis Facility—Number of Employees (FTE):
  - Add lines for additional labor types specific to pediatric dialysis
  - Add columns: one corresponding to pediatric home dialysis and one for pediatric in-facility dialysis
- Staffing categories suggested by pediatric providers
  - Dialysis Nurses/NP by specialty and role
  - Social Workers
  - Dieticians
  - Child Life Specialist
  - Teachers
  - Dialysis Unit Coordinator
  - Biotechnicians and Engineers
- Would it be useful to differentiate pediatric FTE by modality (HD versus PD) or location (home versus in-facility)?

Add More Specificity to Pediatric Direct Patient Labor Staffing FTEs

RENAL DIALYSIS FACILITY -- NUMBER OF EMPLOYEES (FULL TIME EQUIVALENTS)												
21	Enter the number of hours in your normal work week											
		Staff					Contract					TOTAL
		Adult Home	Adult In-center	Pediatric Home	Pediatric In-center	Total	Adult Home	Adult In-center	Pediatric Home	Pediatric In-center	Total	
		1	2	3	4	5	6	7	8	9	10	11
22	Physicians											
23	Registered Nurses with varying credentials											
24	Licensed Practical Nurses											
25	Nurses Aides											
26	Technicians											
27	Social Workers											
28	Dieticians											
29	Dialysis Nurses/NP by specialty and role											
30	Child Life Specialist											
31	Teachers											
32	Dialysis Unit Coordinator											
33	Biotechnicians and Engineers											
34	Administrative											
35	Management											
36	Other (Specify)											

- Acumen's recommendations to capture more specificity for pediatric direct patient care in the table above include line items 29-33 and stratifying Staff and Contract by Adult Home, Adult In-center, Pediatric Home, and Pediatric In-center
- Facilities not providing pediatric dialysis would report 0 in these fields

Reporting of Pediatric Supplies and Equipment

- How best to report/account for these costs in order to differentiate adult from pediatric Composite Rate Costs in facilities that serve both populations?
  - Is it too difficult for facilities to separate adult from pediatric supply costs?
- What prevents these costs from being adequately reported now?
  - Worksheet B, Column 7 (Supplies) includes lines for Pediatric dialysis by modality
  - Does there need to be further stratification to adequately account for these costs
- Pediatric specific supplies are used in the following categories
  - Crit Lines
  - Low Volume Lines and Dialyzers
  - Catheter Kits
  - Fistula Needles
  - Saline Flushes
  - Oxygen at Each Stations
  - Emergency Supplies at Each Station
  - Monitors for Vitals/Blood Pressure Cuffs
  - Other Supplies to Occupy Children

Discussion Questions

- What obstacles will facilities face:
  - In reporting uniformly depreciated costs of dialysis machines used for each modality as opposed to application of accounting rules to distribute total capital costs across modalities
  - In determining FTE distributions across modalities for each type of direct patient labor?
  - In determining FTE distributions across adult and pediatric patient care for each type of direct patient labor?
  - In reporting separate costs for composite rate supplies and formerly separately billable supplies?
- Are there other essential Composite Rate Costs not addressed here that you would like to see added or revised in the Cost Report to support a refined case mix adjustment model?

Discussion Questions (Cont'd)

- Do the ratios of pediatric costs to adult costs for freestanding pediatric facilities look consistent with Stakeholders experience?
  - Do they reflect costs of hospital-based pediatric facilities?
- Why does it appear that some freestanding pediatric facilities are reporting costs that negligibly differ from per-treatment adult costs at the same facility?
- Do hospital-based pediatric dialysis facilities provide fundamentally different care than freestanding equivalents in ways not captured in cost reports and/or claims?
- Which cost differences cannot be reported through existing claims or cost reports?

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Session 7 Outline

Session Objective

- Provide opportunity for all TEP panelists and observers to offer feedback and thoughts

Session Topics

- Open Discussion

Session Time

20 minutes*

*May be adjusted to accommodate overtime in earlier sessions

Open Discussion

- All attendees are encouraged to comment on the day's discussion
- Speakers may offer comments or direct technical questions to TEP panelists
- Please limit remarks to allow time for everyone to participate

Thank You