Recent Breaking Trends in Home Dialysis

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Disclosures

- I am an employee of Satellite Healthcare, as of 01 Dec 2021, and do not have other financial relationships.
- During my preceding tenure at Hennepin Healthcare, I received research funding from and/or provided consulting services to:
  - Dialyze Direct
  - Fresenius Medical Care North America
  - Kidney Care Partners
  - NxStage Medical
  - Outset Medical
  - Quanta DT

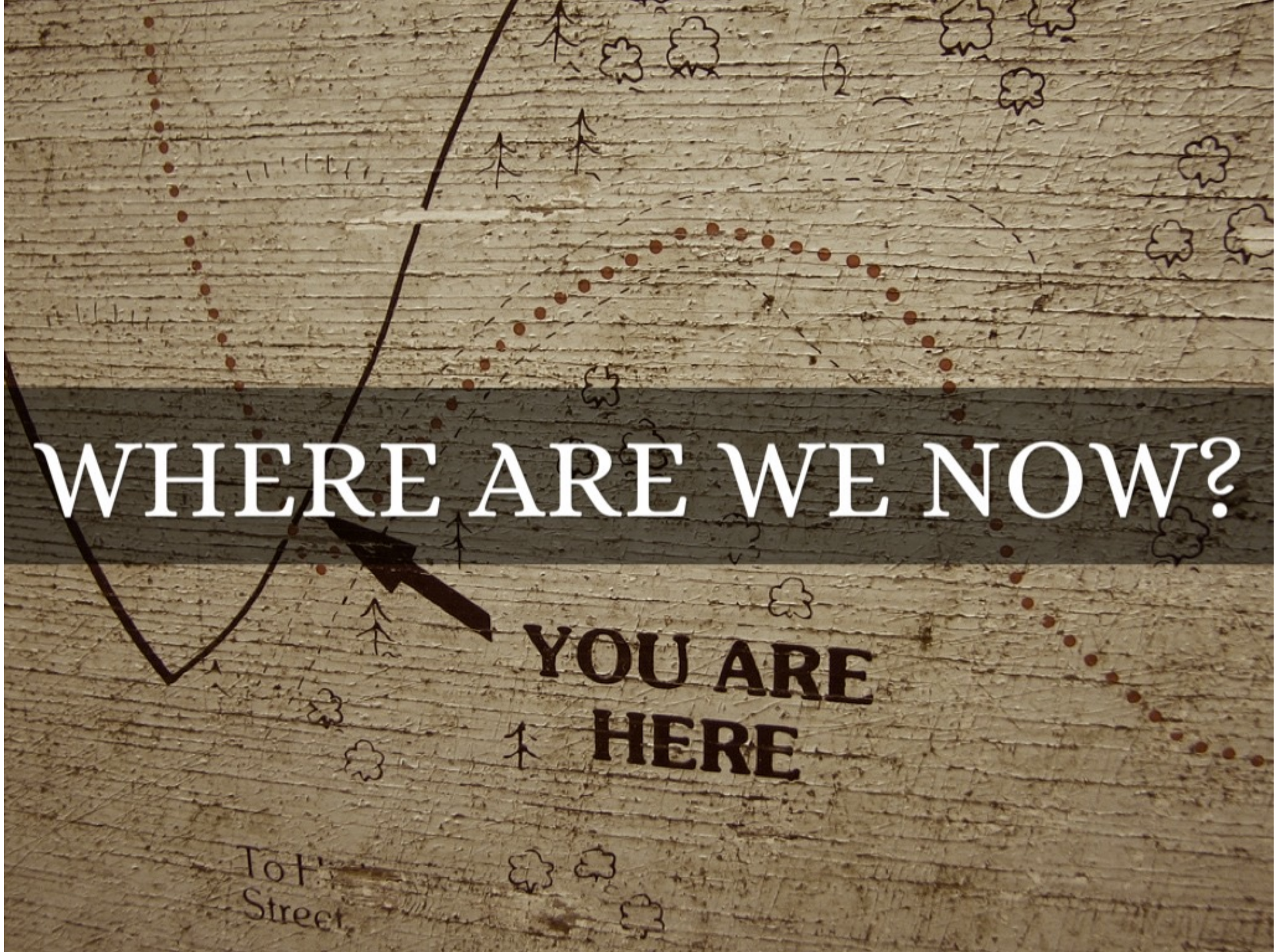
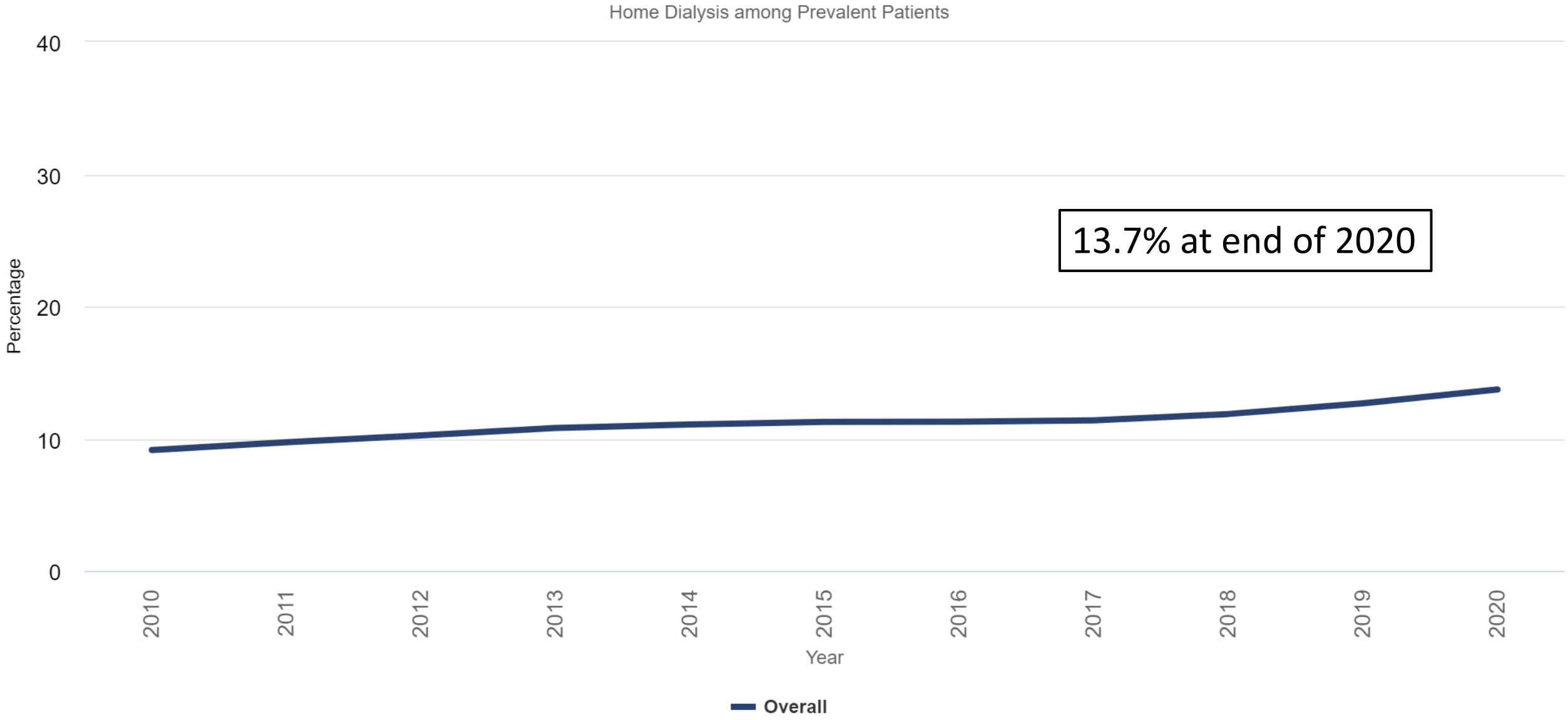

WHERE ARE WE NOW?
YOU ARE HERE

Figure 2.1a Utilization of home dialysis in adult dialysis patients, overall and by modality, stratified by ESRD status, 2010-2020



Data Source: 2022 United States Renal Data System Annual Data Report

What about the US in 2021…

or even 2022?

Dialysis Facility Reports

Fiscal Year 2023: just released!

Dialysis Facility Report for Fiscal Year 2023

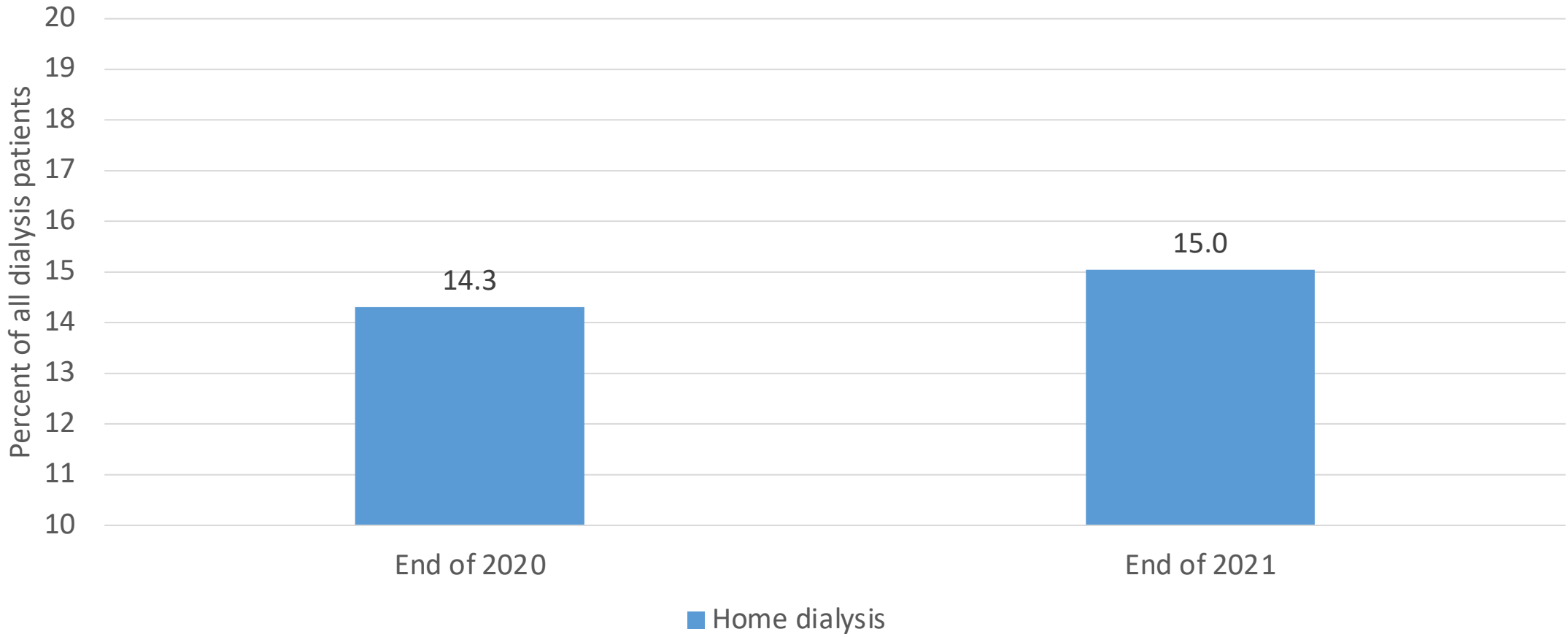
Purpose of the Report

The *Dialysis Facility Report (DFR) for fiscal year (FY) 2023* is provided as a resource for characterizing selected aspects of clinical experience at this facility relative to other caregivers in this state, ESRD Network, and across the United States. Since these data could be useful in quality improvement and assurance activities, each state's surveying agency may utilize this report as a resource during the FY 2023 survey and certification process.

This report has been prepared for this facility by the University of Michigan Kidney Epidemiology and Cost Center (UM-KECC) with funding from the Centers for Medicare & Medicaid Services (CMS) and is based primarily on data reported in End Stage Renal Dialysis Quality Reporting System (EQRS, formerly CROWNWeb), Medicare claims and data collected for CMS. It is the twenty-seventh in a series of annual reports. This is one of 8,220 reports that have been distributed to ESRD providers in the U.S.

1k	Modality (% of 1a; sums to 100%) *5							
	In-center hemodialysis	85.8	85.3	84.5	83.9	83.9	83.9	84.1
	Home hemodialysis	2.2	2.3	2.7	2.9	3.1	3.1	3.0
	Continuous ambulatory peritoneal dialysis	1.5	1.5	1.6	1.5	1.3	1.3	1.4
	Continuous cycling peritoneal dialysis	10.2	10.5	10.8	11.2	11.3	11.2	11.2
	Other modality	0.3	0.3	0.4	0.4	0.4	0.4	0.4

More growth during 2021



Public disclosures

DaVita Kidney Care

Andrew Mok -- *UBS -- Analyst*

OK. Got it. And then maybe just a quick update on home dialysis initiatives. Where is that tracking relative to long-term goals? And as you shut down clinics, should we expect that number to trend higher over time? Thanks.

Javier Rodriguez -- *Chief Executive Officer*

Yeah. Thanks for the question, Andrew. Our home mix ended up 15.2%, and that is tracking consistent to where we expected. We do not think there's a linkage between closing centers and having home mix increase, but rather the transitional centers that we talked about and making sure that our patients have home remote monitoring and other tools so that they feel confident and connected and want to be able to go home.

Public disclosures

Fresenius Kidney Care

Victoria Lambert: Thanks for taking my question. I just had one on your home treatment strategy. Is the target still to reach 25% of treatments are formed by 2025. Yes, just an update on the progress of that would be useful. Thank you.

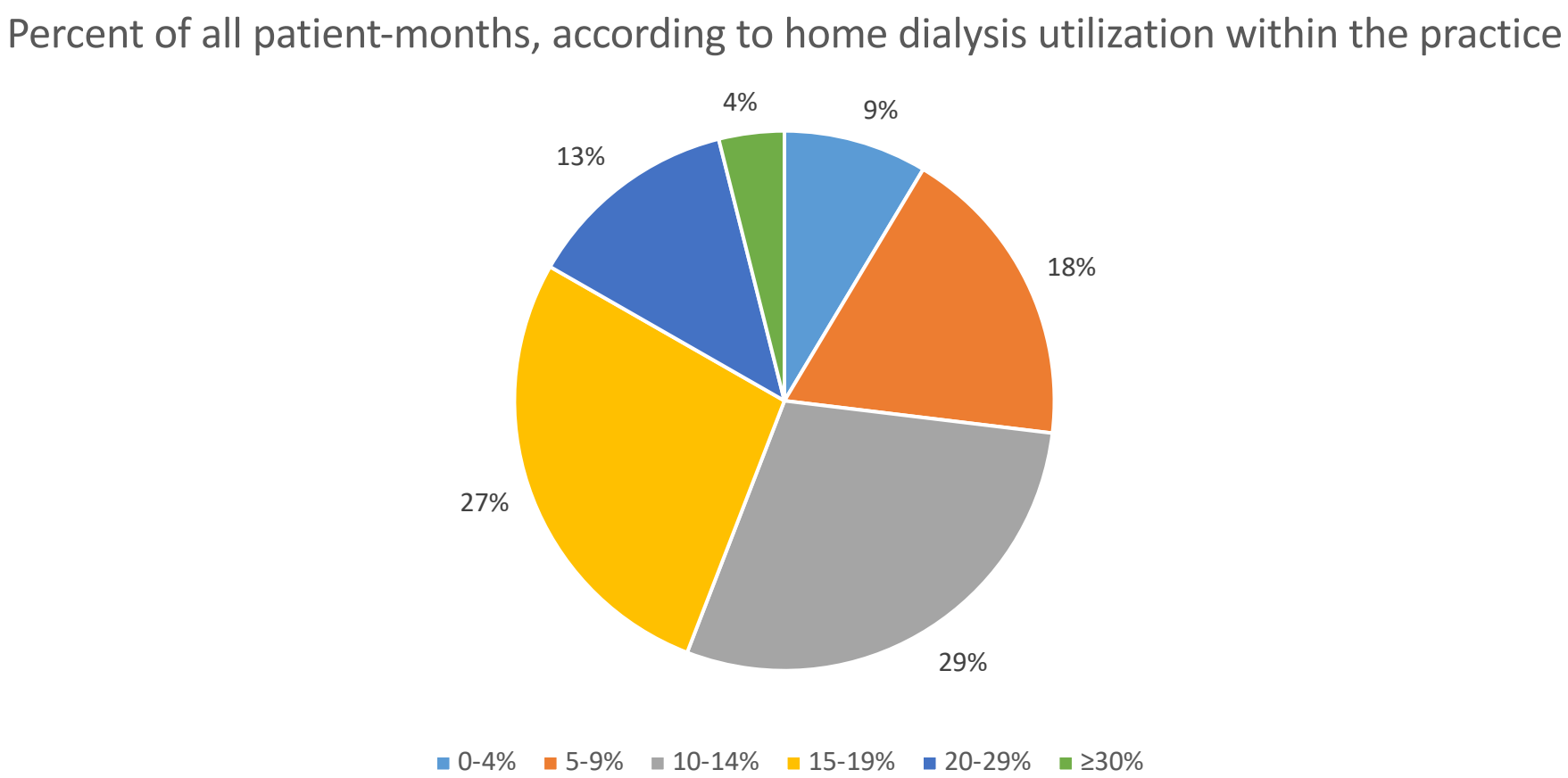
Helen Giza: Hi Victoria, great to have you on the Berenberg team. The home target, it's still aspirational to be at 25% by 2025. And we recognize, that home growth has been impacted by obviously, the labor challenges and kind of staffing shortfalls that we had in 2023. At the end of Q4, we were at roughly just around 16%. So, it's definitely a focus for us to continue to accelerate — and now obviously, as we see this labor situation stabilizing, we should be able to kind of get back on the training and really continue to drive that. Like we had kind of maybe this time last year, where we're seeing that momentum come through. So, yes, still really excited about home, very much a key pillar of our strategy to kind of offset in some ways is the labor challenges that we have. But ultimately, also feed into our value-based care strategy of really improving outcomes in a home setting, which should ultimately reduce cost as well.

Comparing dialysis providers

	Overall, 2020	Overall, 2021	HHD, 2020	HHD, 2021	PD, 2020	PD, 2021
American Renal Associates	11.5	12.4	1.3	1.5	10.2	10.9
Centers for Dialysis Care	10.2	11.6	4.3	5.1	5.9	6.5
DaVita Kidney Care	15.0	15.5	1.7	1.8	13.3	13.7
Dialysis Clinic, Inc. (DCI)	12.9	13.1	1.4	1.3	11.5	11.7
Fresenius Kidney Care	13.9	14.8	3.6	4.0	10.3	10.8
Greenfield Health Systems	15.0	15.1	2.4	2.2	12.6	12.9
Northwest Kidney Centers	14.8	16.3	2.9	2.4	11.9	13.8
Satellite Healthcare	20.3	20.2	3.1	3.2	17.2	16.9
U.S. Renal Care	13.5	15.3	1.3	1.6	12.2	13.7
Wake Forest Baptist Health	14.7	14.6	1.0	1.3	13.7	13.3

Nephrology group practices induce variability

Medicare Part B claims among ETC participants, 2021



Comparing **home dialysis utilization**
in a **prevalent population**
is much more difficult than it seems.

“Fractions are hard.”

The Big 3

- ESKD incidence
  - Adds patients to the population
- Death
  - Removes relatively ill patients from the population
- Transplantation
  - Removes relatively well patients from the population

Table: Effects of the COVID-19 pandemic on home dialysis utilization

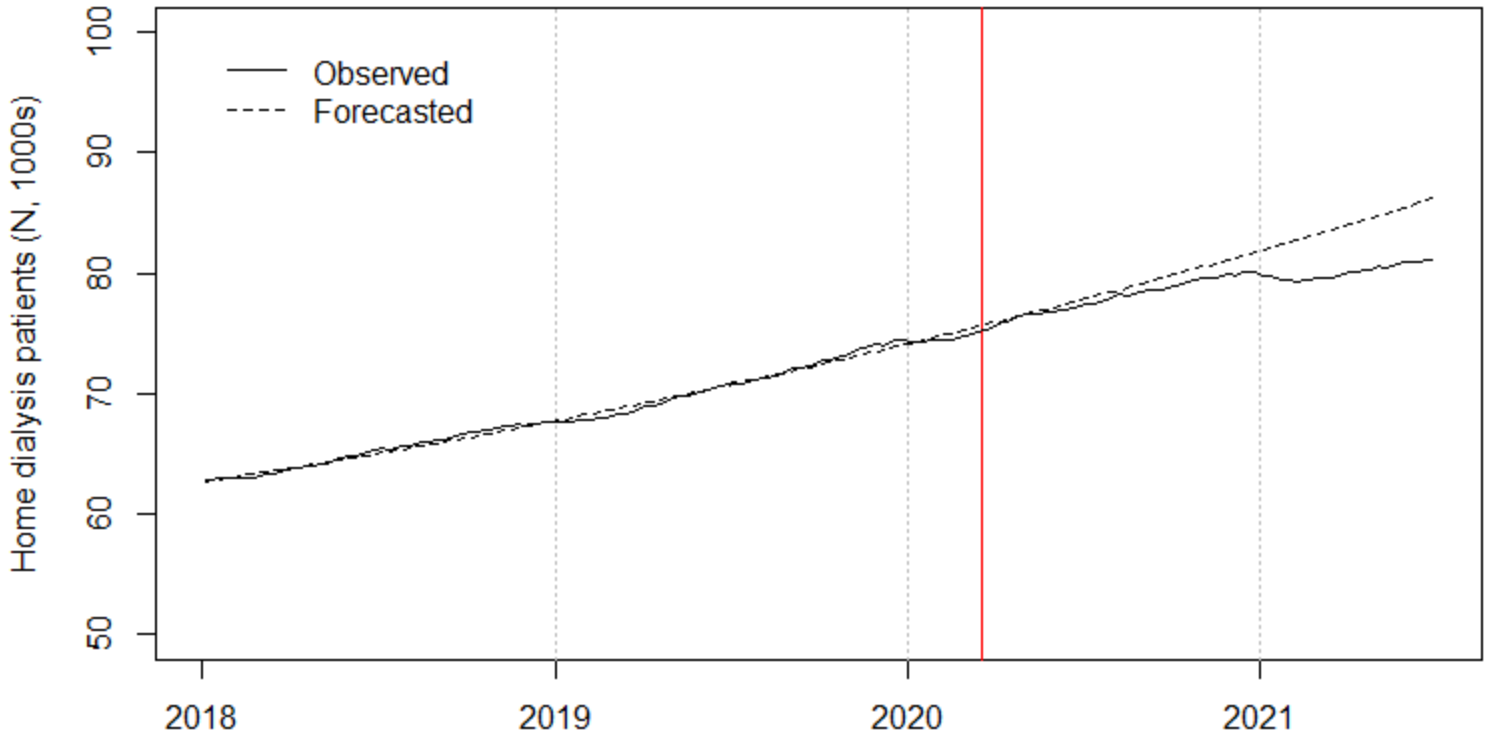
Issue	Effect on home dialysis
Changes in incidence of kidney failure	The number of people initiating dialysis was lower in 2020, but the percent of new patients who selected home therapies was higher.
Excess mortality among patients on home dialysis	The death rate among patients on home dialysis was higher than during the years before the pandemic.
Excess mortality among patients on in-center HD	The death rate among patients on in-center HD was higher than during the years before the pandemic, leading to a shrinking census and the "illusion" of a higher percent of patients utilizing home therapies.
Fewer kidney transplants	Fewer kidney transplants, particularly from living donors, resulted in more patients remaining on PD.
Patient interest in home therapies	Patients may be more interested in social distancing offered during in-home dialysis.
Capacity for home dialysis training	Emerging staff shortages may limit the number of patients who can be trained each month.

Percent of patients on dialysis utilizing either home HD or PD among Medicare-certified dialysis facilities in fiscal year 2022

Source: Dialysis Facility Report dataset.

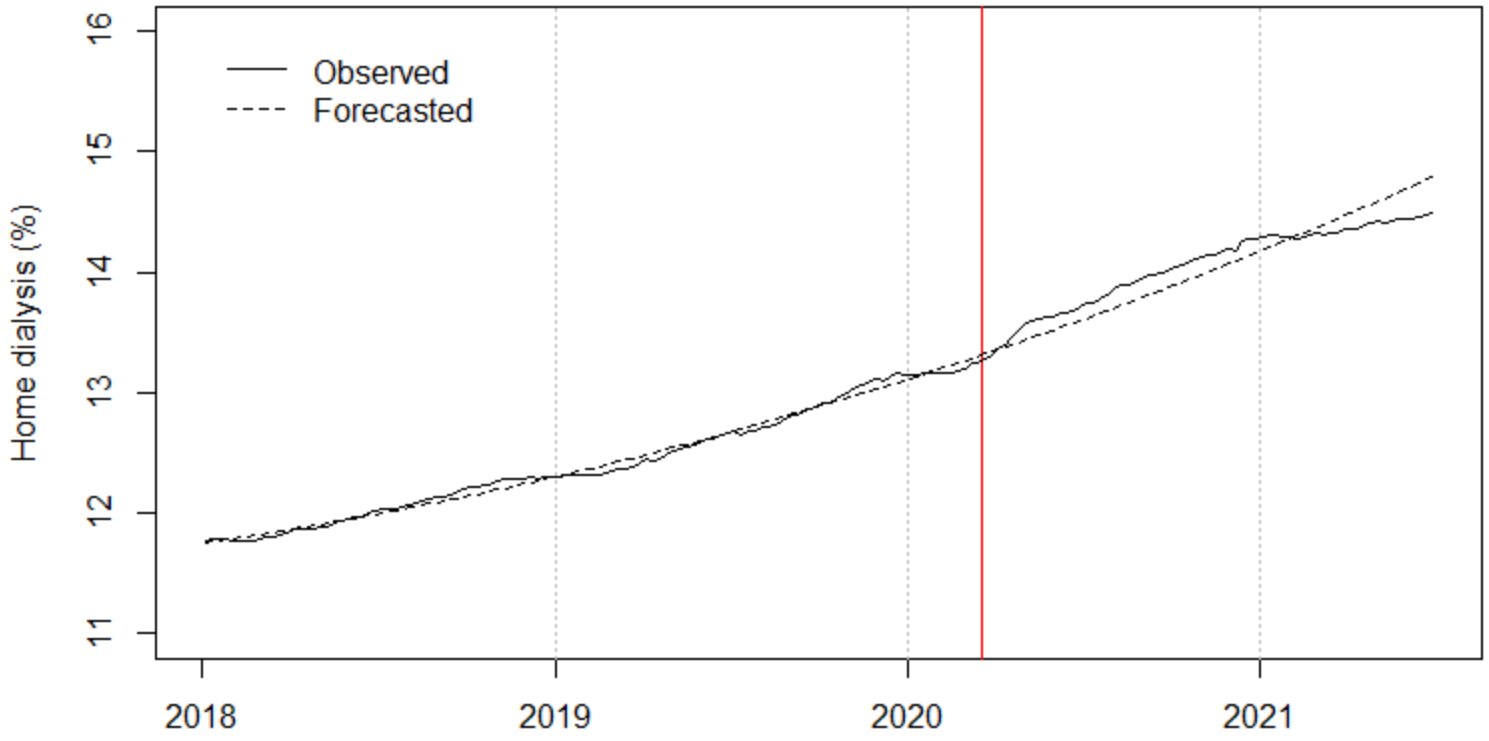
Home dialysis prevalence (N)

Through Jun 2021



Home dialysis utilization (%)

Through Jun 2021



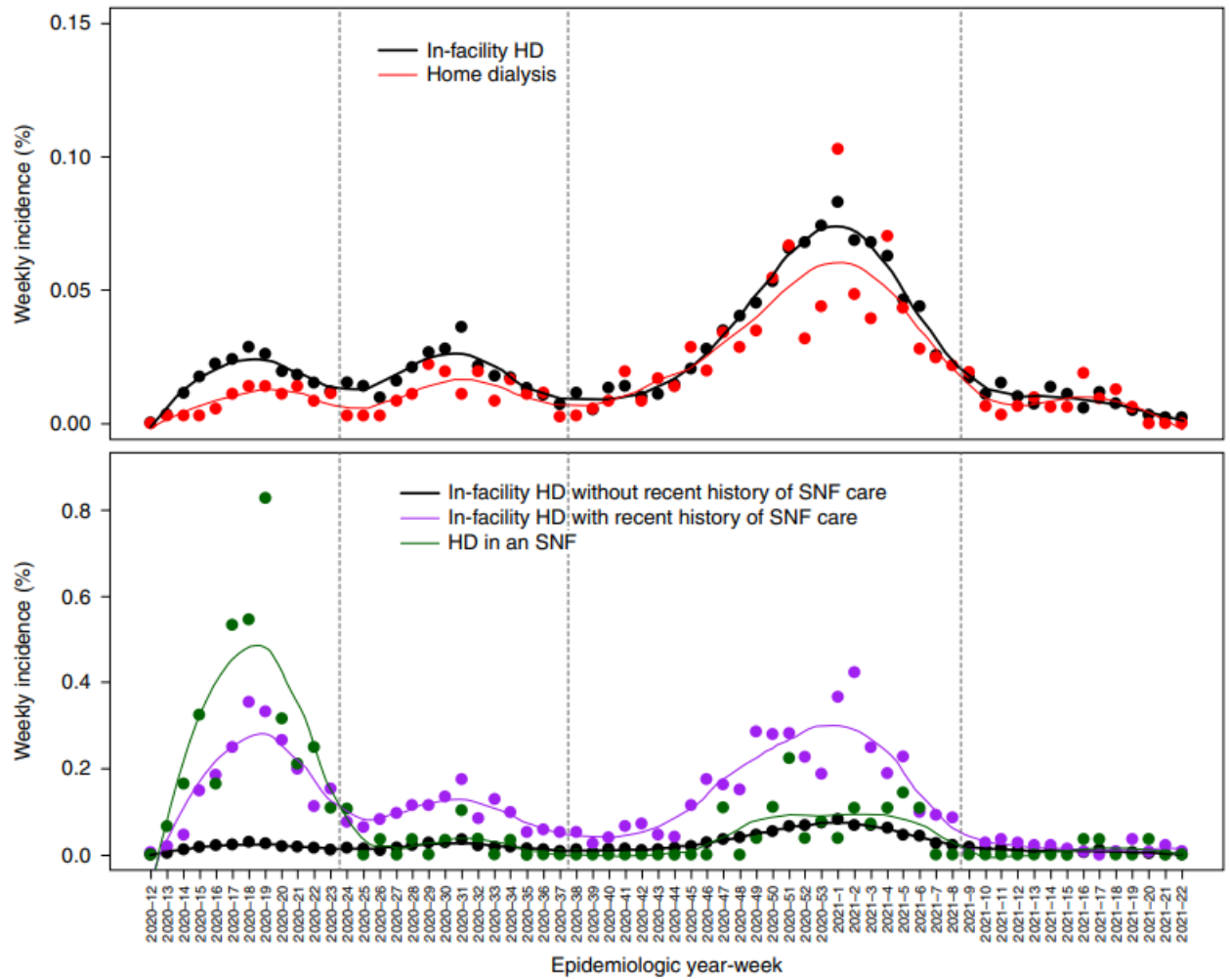
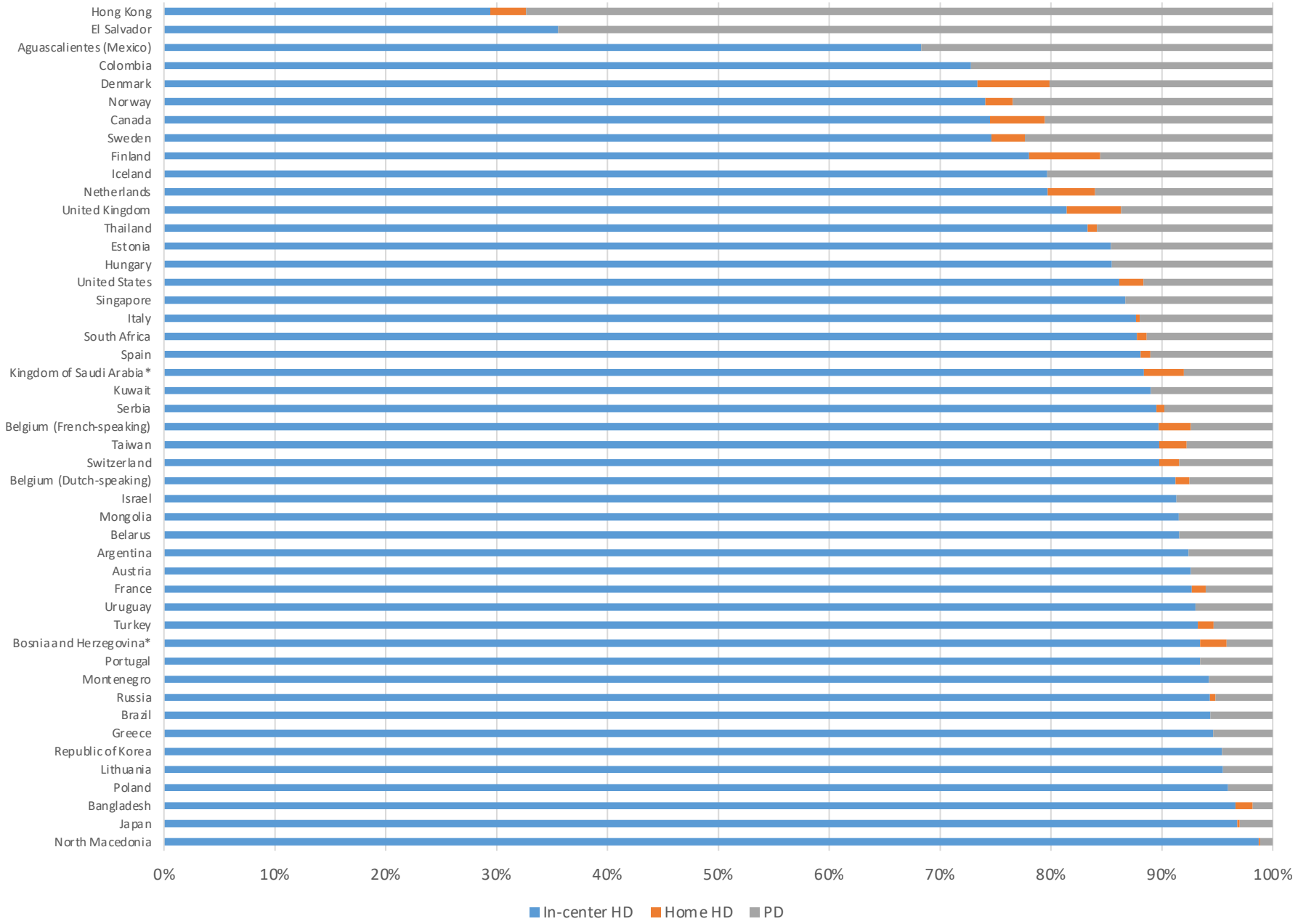


Figure 4. | Weekly incidence of COVID-19 death among patients undergoing in-facility HD without a recent history of SNF care (both panels), home dialysis (upper panel), in-facility HD with a recent history of SNF care (lower panel), or HD in an SNF (lower panel) from epidemiologic week 12 of 2020 to week 22 of 2021 (March 15, 2020 to June 5, 2021). Vertical lines separate the four intervals specified in risk models.

How do we compare?


Hong Kong
El Salvador
Aguascalientes (Mexico)
Colombia
Denmark
Norway
Canada
Sweden
Finland
Iceland
Netherlands
United Kingdom
Thailand
Estonia
Hungary
United States
Singapore
Italy
South Africa
Spain
Kingdom of Saudi Arabia*
Kuwait
Serbia
Belgium (French-speaking)
Taiwan
Switzerland
Belgium (Dutch-speaking)
Israel
Mongolia
Belarus
Argentina
Austria
France
Uruguay
Turkey
Bosnia and Herzegovina*
Portugal
Montenegro
Russia
Brazil
Greece
Republic of Korea
Lithuania
Poland
Bangladesh
Japan
North Macedonia
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
In-center HD
Home HD
PD

We have ground to cover.

	Total	HHD	PD
United States	13.7%	2.1%	11.6%
Australia (2021)	26%	8%	18%
Canada (2021)	23.8%	4.4%	19.4%
New Zealand (2021)	38%	12%	26%
United Kingdom	17.7%	4.7%	13.0%

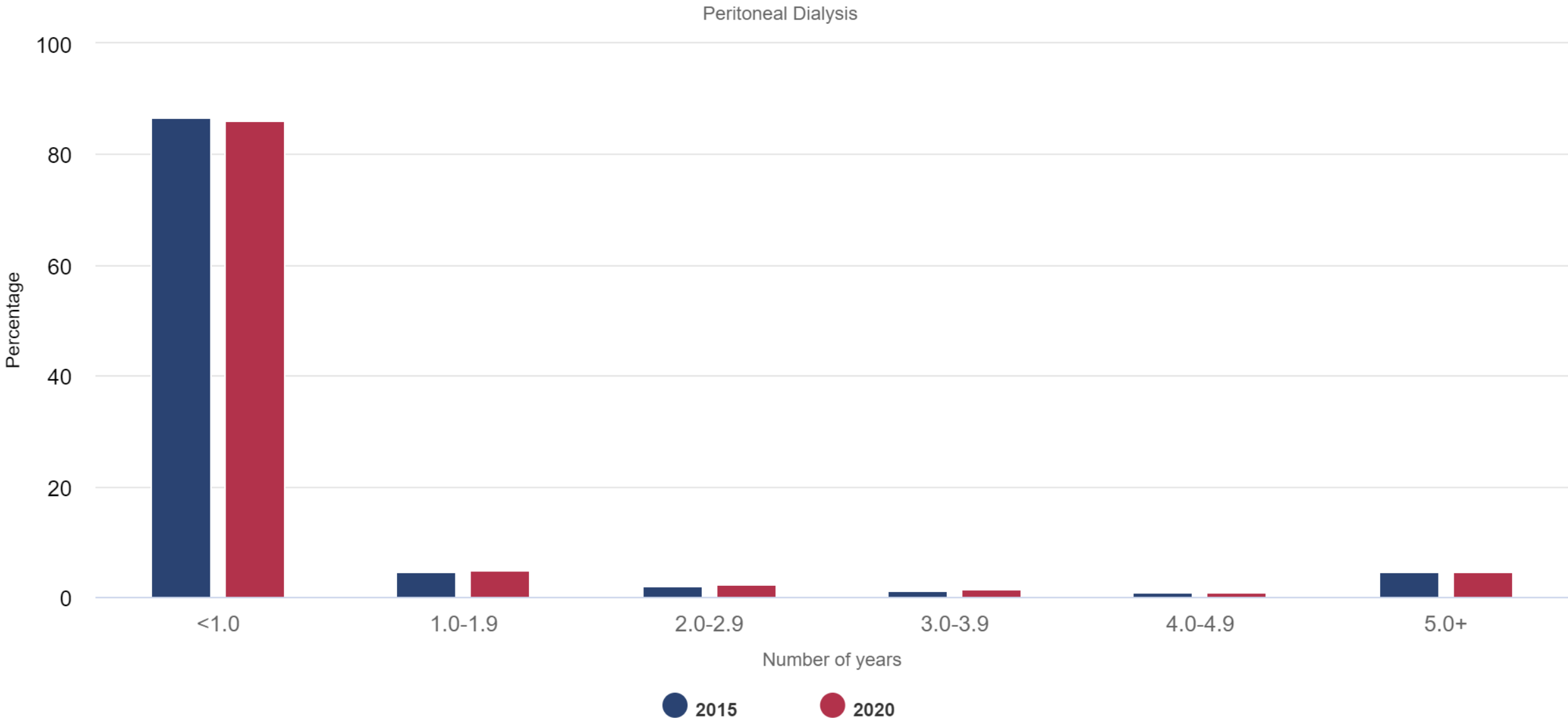
Big picture

- Home dialysis has been growing
- Home dialysis growth during 2022 was probably slower
- Changes in home dialysis utilization (%) are especially difficult to interpret when exogenous forces are dynamic
- We are *not* an international outlier, but we remain behind our economic peers in the Commonwealth
- In the US, dialysis providers continue to take heterogeneous paths to growing home dialysis

Home dialysis on Day 1

Modality selection among incident ESKD patients

Figure 2.7 Years between ESRD incidence and home dialysis initiation in adult home dialysis patients, by modality, 2015 and 2020



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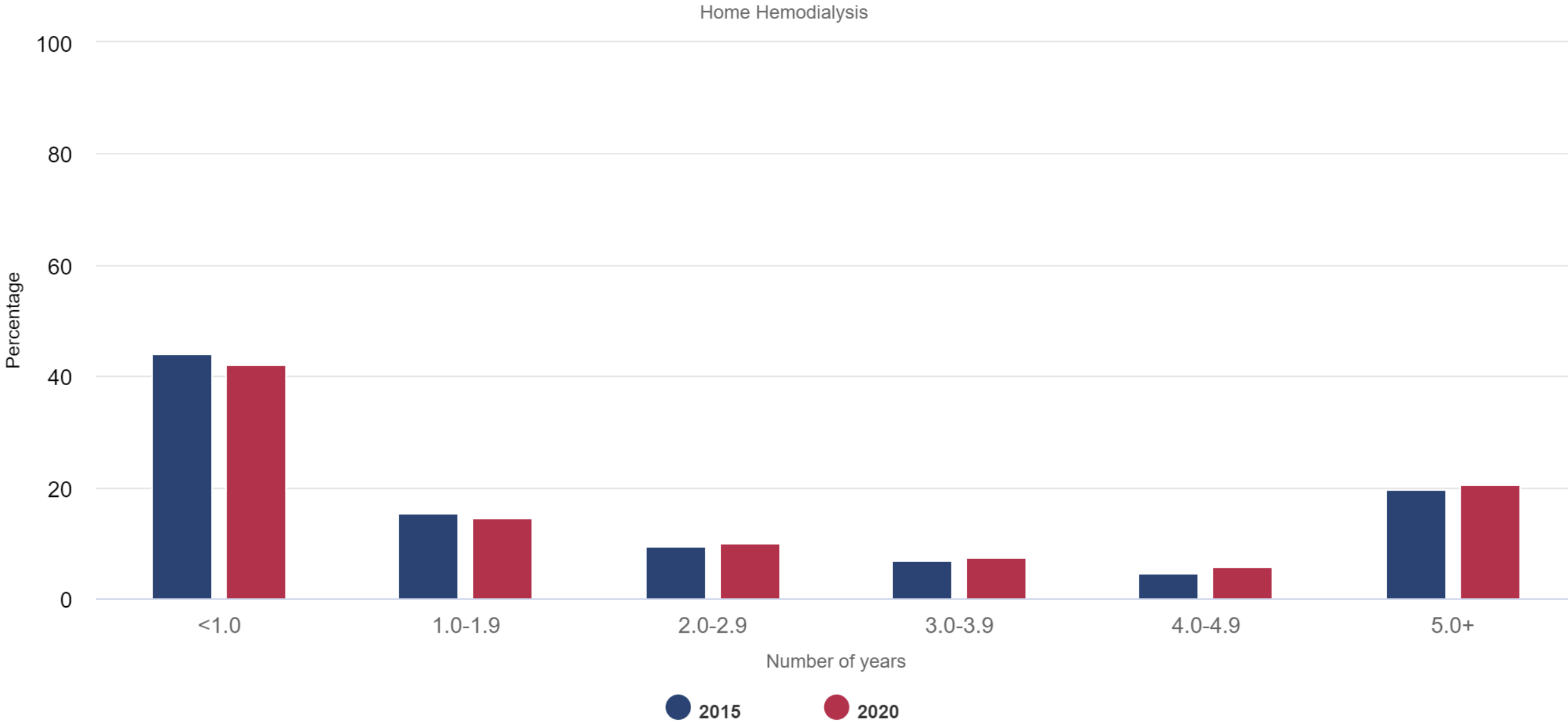

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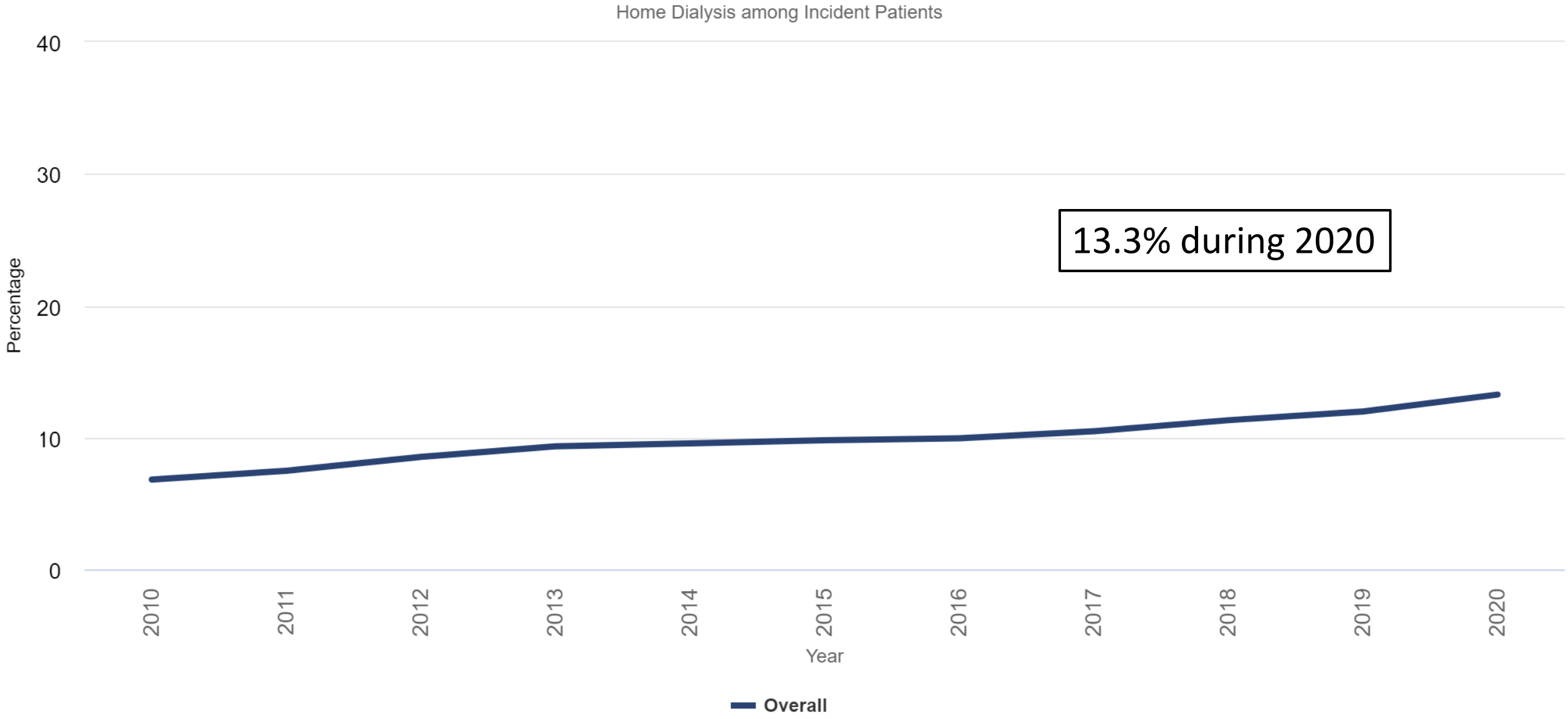

Data Source: 2022 United States Renal Data System Annual Data Report

Medical Evidence (ME) Report data in the incident ESRD population, 2020 Q1 - 2022 Q2

	2020				2021				2022	
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
Incident ESRD Patients (N)	34,478	30,711	32,728	32,837	35,184	35,859	32,414	32,561	33,882	33,394
Patients with ME Report	33,820	30,143	32,002	32,002	34,344	34,968	31,583	31,562	32,782	32,167
Dialysis	33,149	29,588	31,252	31,315	33,741	34,223	30,886	30,898	32,153	31,468
Hemodialysis	29,036	25,695	26,816	27,170	29,673	29,480	26,597	26,759	27,940	26,768
Peritoneal dialysis	4,094	3,879	4,421	4,129	4,056	4,733	4,282	4,128	4,198	4,693
Kidney Transplant	671	555	750	687	603	745	697	664	629	699
Patients with no ME Report	658	568	726	835	840	891	831	999	1,100	1,227
Dialysis modality (%) [1]										
Hemodialysis	87.59	86.84	85.81	86.76	87.94	86.14	86.11	86.60	86.90	85.06
Peritoneal dialysis	12.35	13.11	14.15	13.19	12.02	13.83	13.86	13.36	13.06	14.91
Other or unknown	0.06	0.05	0.05	0.05	0.04	*	*	0.04	0.05	*
Dialysis setting (%) [2]										
Dialysis facility	97.79	97.66	97.86	97.92	97.40	97.49	97.56	97.42	97.10	97.11
Home	1.10	1.31	1.19	1.03	1.23	1.22	1.23	1.16	1.43	1.27
Skilled nursing facility	1.12	1.02	0.95	1.05	1.37	1.30	1.22	1.42	1.47	1.63

[1] Dialysis modality percentages are based on the denominator of dialysis patients with an ME Report.

[2] Dialysis setting and vascular access type percentages are based on the denominator of hemodialysis patients with an ME Report.

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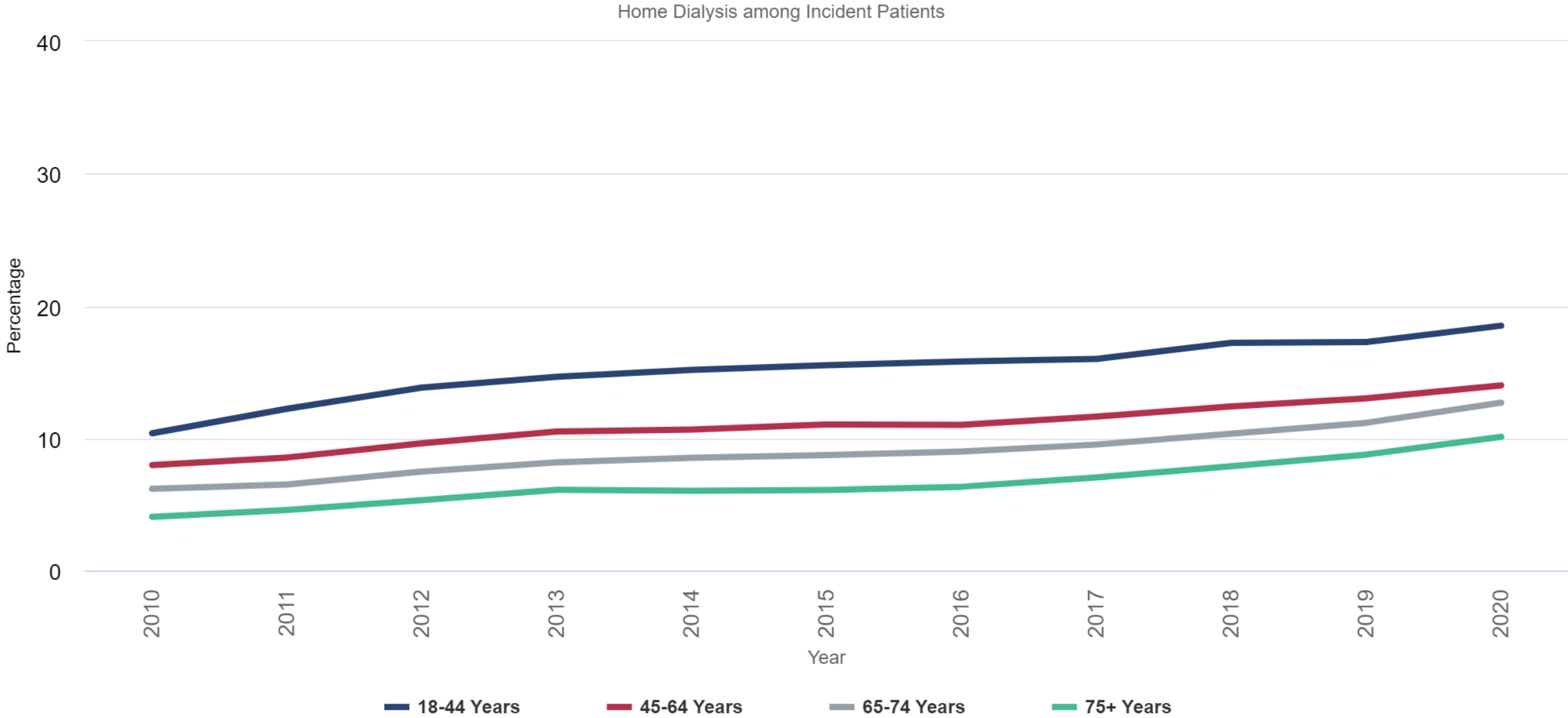

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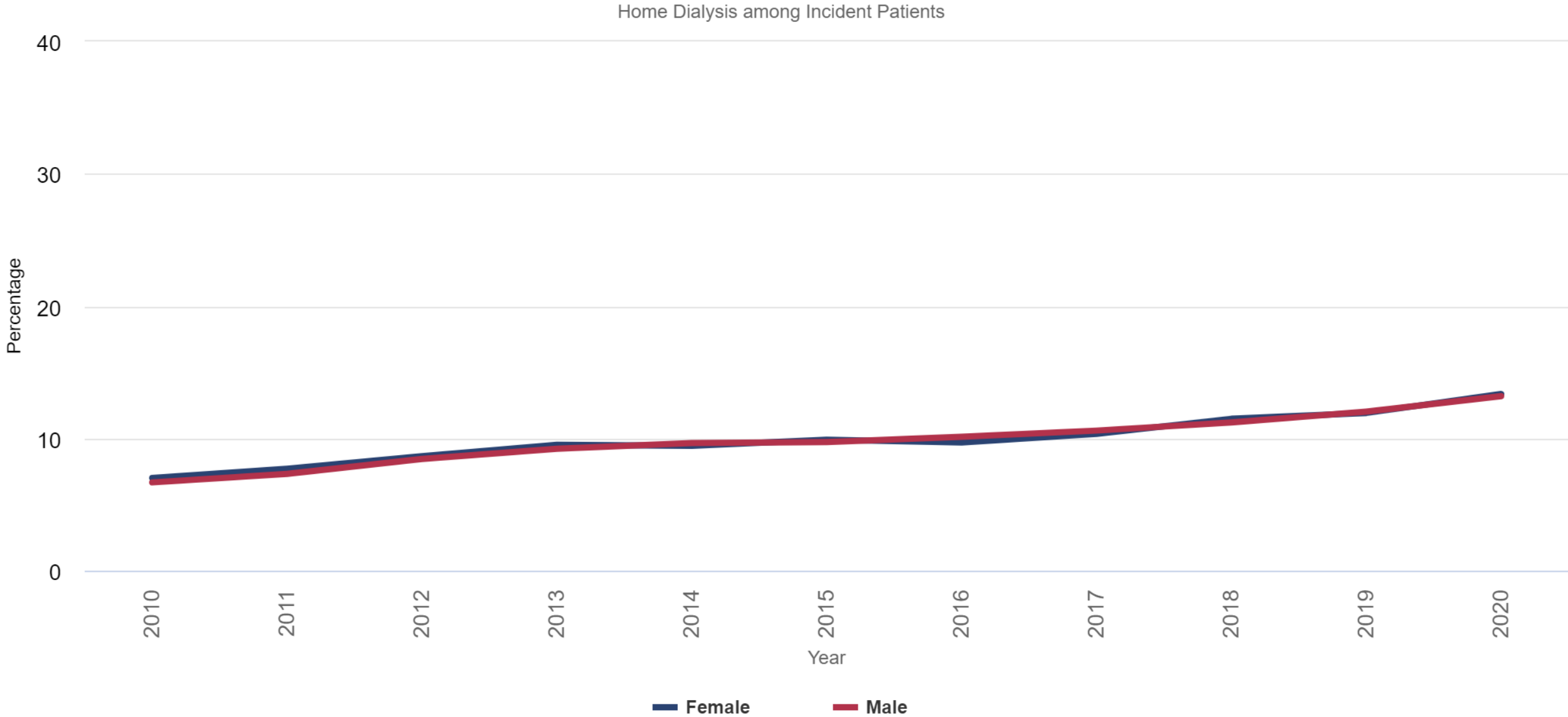

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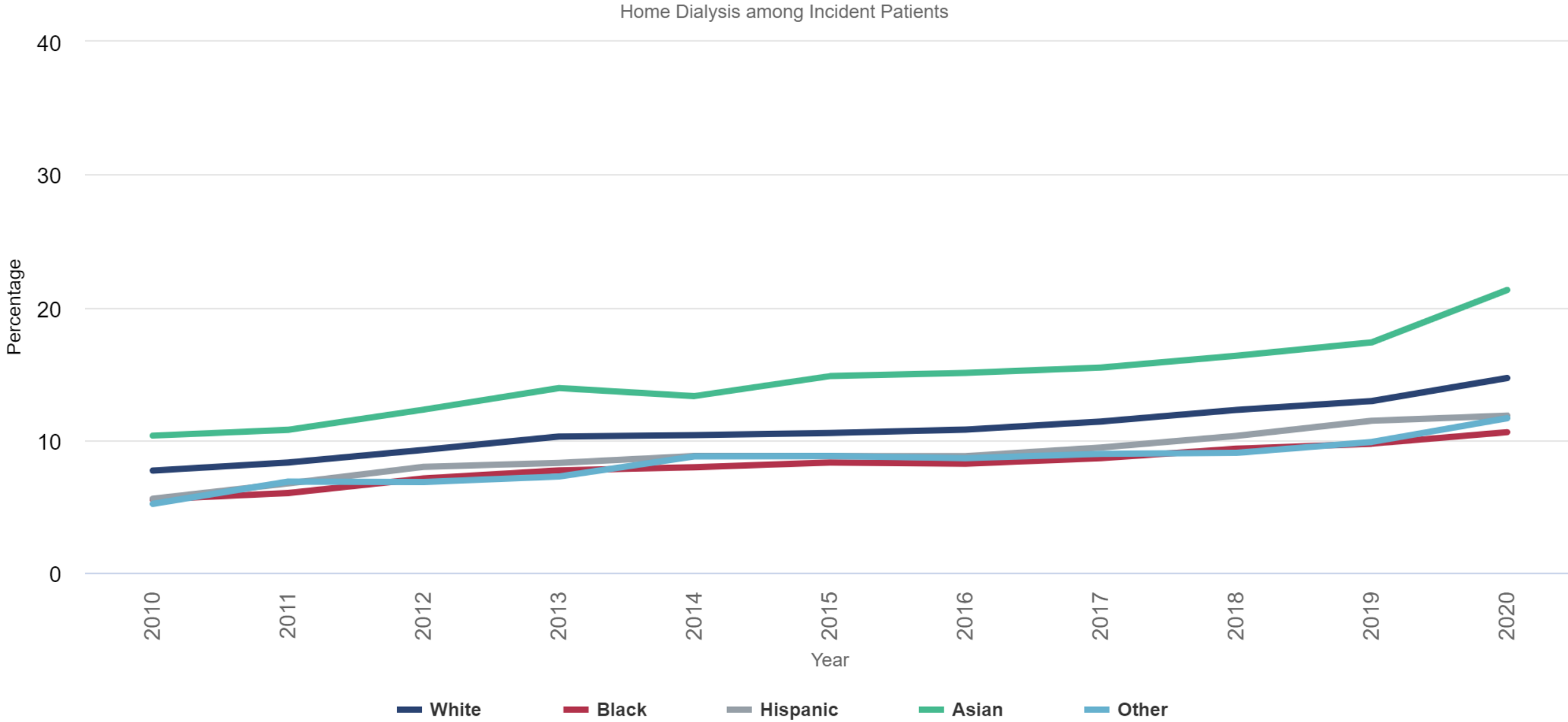

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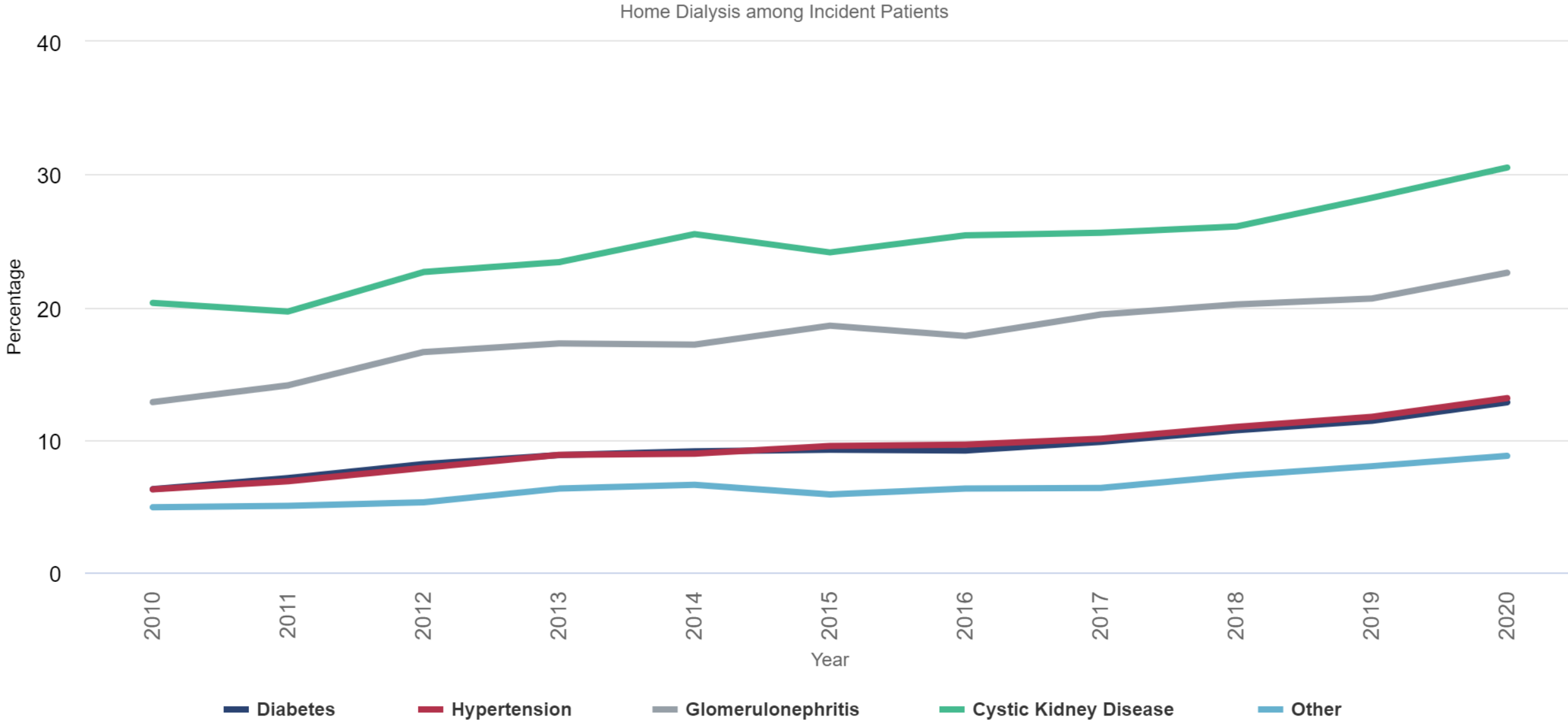

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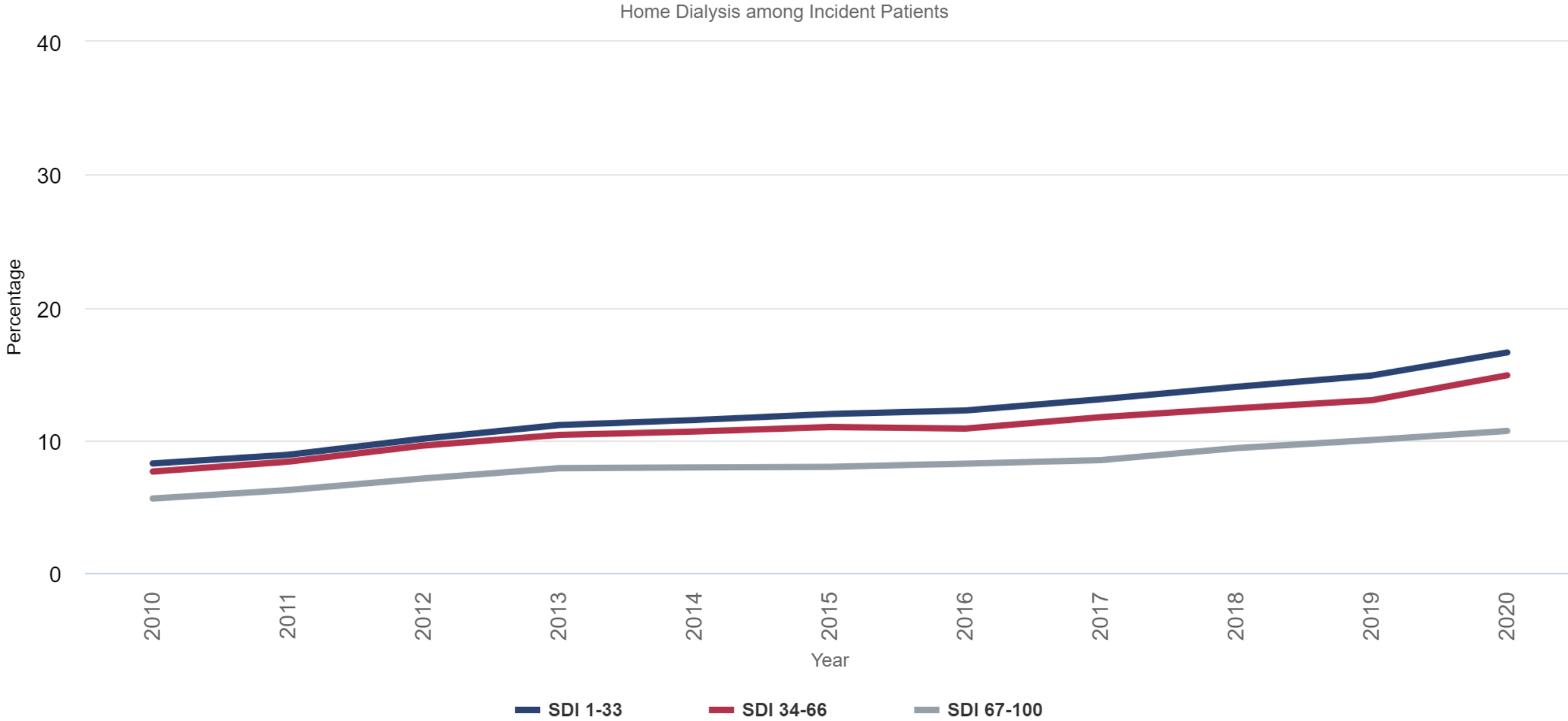

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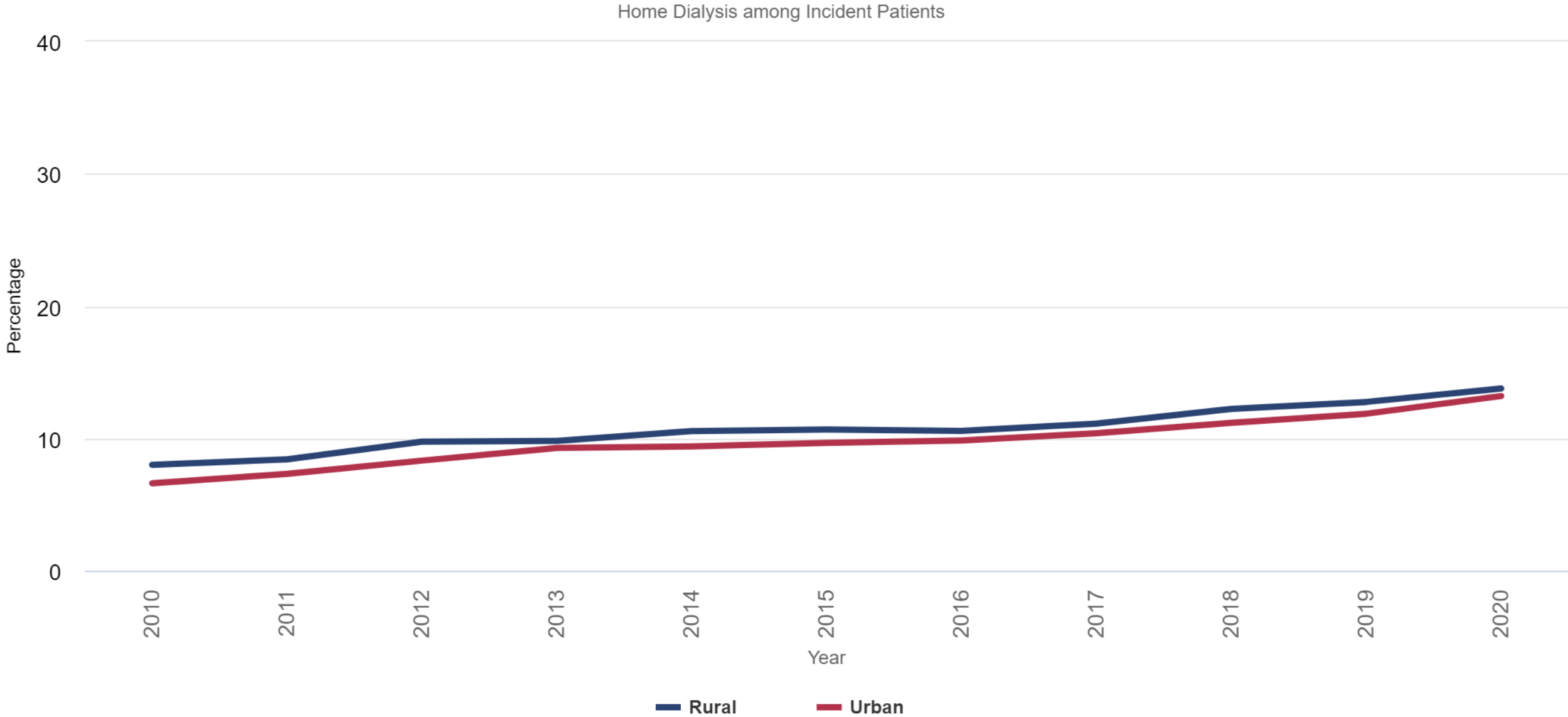


Data Source: 2022 United States Renal Data System Annual Data Report

ESRD Treatment Choices

- Mandatory-participation payment model in Medicare Part B
- 95 Hospital Referral Regions (approximately 30% of US)
- Involves dialysis providers and nephrologists
- Incentivizes (1) home dialysis and (2) transplant wait-listing
- Significant dollars at risk
  - All dialysis treatments in Medicare Part B
  - All monthly capitated payments to nephrologists

Bonus/penalty array in *Measurement Year 4*

Performance assessment from Jul 2022 to Jun 2023

		Transplant wait-listing				
		0.0	**0.5**	**1.0**	**1.5**	**2.0**
Home dialysis	**0.0**	-6.0/-7.0%	-6.0/-7.0%	-3.0/-3.5%	-3.0/-3.5%	-3.0/-3.5%
	1.0	-3.0/-3.5%	-3.0/-3.5%	-3.0/-3.5%	Neutral	Neutral
	2.0	-3.0/-3.5%	Neutral	Neutral	Neutral	+2.5/+3.0%
	3.0	Neutral	Neutral	+2.5/+3.0%	+2.5/+3.0%	+2.5/+3.0%
	4.0	+2.5/+3.0%	+2.5/+3.0%	+2.5/+3.0%	+5.0/+6.0%	+5.0/+6.0%

	Home dialysis			Transplant wait-listing		
		A	**I**		**A**	**I**
	0.0	<30 p	≤0%	**0.0**	<30 p	≤0%
	1.0	30-49 p	>0-5%	**0.5**	30-49 p	>0-5%
	2.0	50-74 p	>5-10%	**1.0**	50-74 p	>5-10%
	3.0	75-89 p	>10%	**1.5**	75-89 p	>10%
	4.0	≥90 p		**2.0**	≥90 p	

3 lines of evidence

- Ji et al, *JAMA Health Forum*, 2022 Oct 7
- CMS report about *Measurement Year 1* performance
- Johansen et al, *JAMA Network Open*, 27 Feb 2023

Ji et al, *JAMA Health Forum*

- Materials
  - Medicare claims—nothing else
- Cohort
  - Traditional Medicare beneficiaries aged ≥66 years
  - Initiated dialysis between 01 Jan 2021 and 03 Oct 2021
- Outcome
  - Percentage of patients receiving any home dialysis during the first 90 days since the start of dialysis treatment

Table 3. Effect of ETC During First Year of the Program in 2021[a]

Characteristic	Value in control HRRs, mean (SD)	Between treatment and control HRRs, mean difference (95% CI)	*P* value
Treatment modality			
Any home dialysis in first 90 d, %	20.60 (7.77)	0.12 (−1.42 to 1.65)	.89
Weeks receiving any home dialysis in first 90 d, %	16.67 (6.77)	0.17 (−1.24 to 1.58)	.82
Dialysis sessions at home in first 90 d, %	17.23 (6.81)	0.22 (−1.14 to 1.57)	.76
Patient characteristics and extensive margin outcomes			
Dialysis rate per capita[b]	0.01 (0.005)	−0.0001 (−0.0003 to 0.0002)	.44
Total No. of dialysis patients[c]	2388 (2521)	37.04 (−8.41 to 82.50)	.11
Predialysis Elixhauser index score	5.96 (0.75)	−0.02 (−0.18 to 0.13)	.77
Anticipatory effect			
Any home dialysis in first 90 d in 2020, %	20.00 (8.55)	−1.20 (−2.75 to 0.3382)	.13

Abbreviations: ETC, End-Stage Renal Disease Treatment Choice; HRRs, hospital referral regions.

[a] The table reports HRR-level average characteristics of ETC-eligible patients. The first column reports the means for the control HRRs. The second column reports the coefficient on the treatment indicator from estimating an HRR-level regression of the outcome variable on the treatment indicator, controlling for strata fixed effects, lagged outcome from 3 years prior, and HRR-level averages of patient demographic characteristics and baseline health. The regression is weighted by the average number of patients in the sample in 2018 and 2019. We report 95% CIs based on heteroskedasticity robust standard errors.

[b] This is the number of traditional Medicare patients 66 years or older who initiated treatment with dialysis in either modality in the baseline sample divided by the number of traditional Medicare patients 66 years or older.

[c] Includes all traditional Medicare patients who received dialysis between January 1 and October 3, 2021.

CMS Report

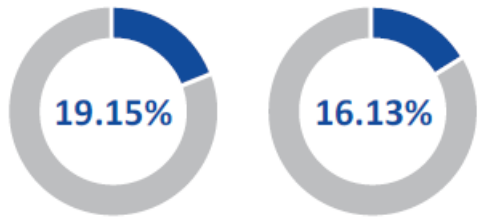
- *Measurement Year 1*: Jan 2021 – Dec 2021
- Compared to *Baseline Year*: Jun 2019 – Jun 2020

- Large intercurrent shocks to the system
  - COVID-19 pandemic
  - Medicare Advantage enrollment wave on 01 Jan 2021

MY1 PERFORMANCE

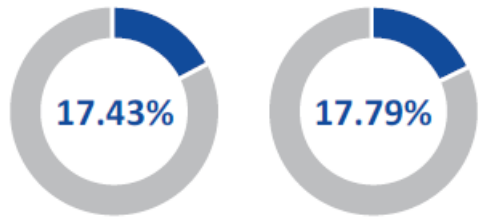
Average Home Dialysis Rate and Transplant Rate among ETC Participants in MY1

Average Home Dialysis Rate



ESRD Facilities | Managing Clinicians

Average Transplant Rate



ESRD Facilities | Managing Clinicians

PERFORMANCE IN MY1 VS. ACHIEVEMENT BENCHMARKS

(Benchmark Year 1: July 1, 2019–June 30, 2020)

- **65% of ESRD facilities** and **80% of Managing Clinicians** had higher home dialysis rates than the 50th percentile achievement benchmark home dialysis rates of 12.60 and 8.46.
- **44% of ESRD facilities** and **51% of Managing Clinicians** had higher transplant rates than the 50th percentile achievement benchmark transplant rates of 18.28 and 18.76.

PERFORMANCE OVER TIME

(from BY1 to MY1)

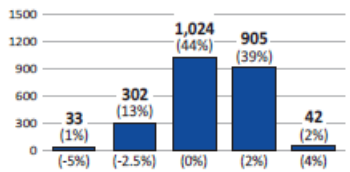
- **81% of ESRD facilities** and **72% of Managing Clinicians** improved their home dialysis rate.
- **56% of ESRD facilities** and **57% of Managing Clinicians** improved their transplant rate.

MY1 PERFORMANCE PAYMENT ADJUSTMENT

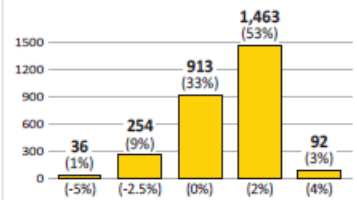
41% of ESRD facilities and **56% of Managing Clinicians** received a positive PPA.

NPI-TIN Total No.

PPA for ESRD Facilities



PPA for Managing Clinicians



Johansen et al, *JAMA Network Open*

- Materials
  - USRDS database, including EQRS (CMS-2728)
- Cohort
  - All adults newly diagnosed with ESKD
  - Initiated dialysis between 01 Jan 2016 and 30 Jun 2022
- Outcome
  - Percentage of patients who initiated home dialysis, according to the ESRD Medical Evidence Report

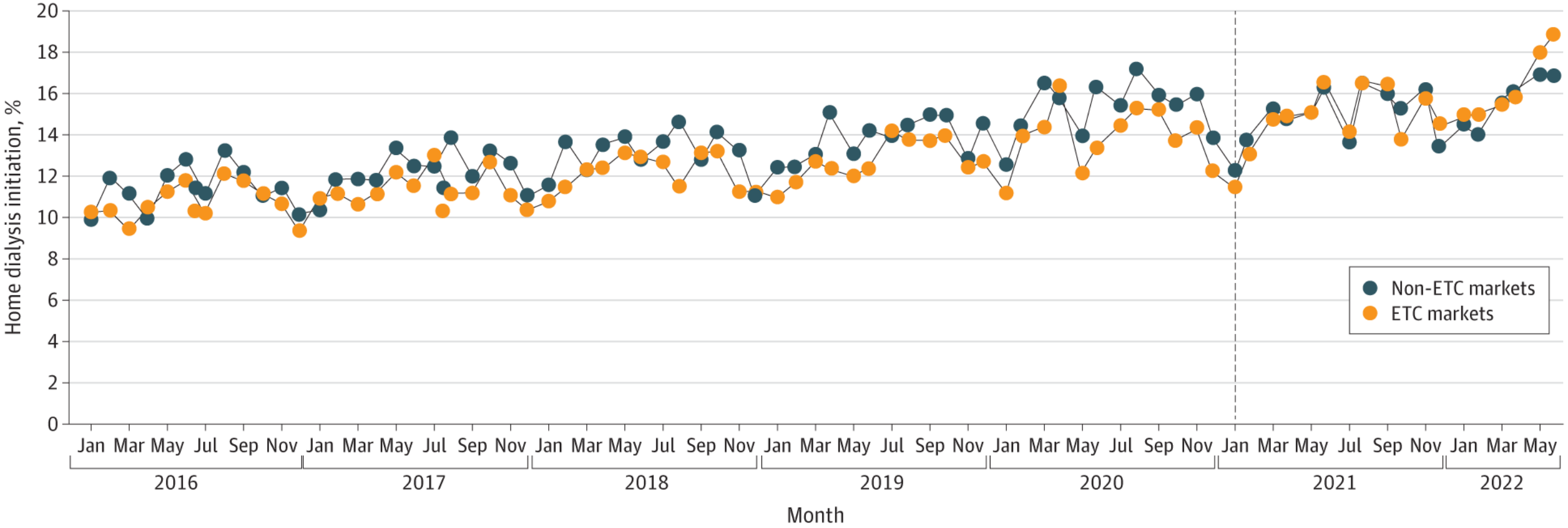

Home dialysis initiation, %
20
18
16
14
12
10
8
6
4
2
0
Jan Mar May Jul Sep Nov Jan Mar May Jul Sep Nov Jan Mar May Jul Sep Nov Jan Mar May Jul Sep Nov Jan Mar May Jul Sep Nov Jan Mar May Jul Sep Nov Jan Mar May
2016
2017
2018
2019
2020
2021
2022
Month
Non-ETC markets
ETC markets

Table 1. Prevalent Patient Treatment and Outcomes, Overall and by ETC Region Status, January 2017 to December 2018[a]

Treatment or outcome	Mean (SD), %			ETC-assigned vs control, mean difference (95% CI), percentage points
	All facilities (N = 6062)	ETC-assigned facilities (n = 1891)	Control facilities (n = 4171)	
Living donor kidney transplant	2.2 (14.8)	2.1 (14.5)	2.3 (15.0)	−0.2 (−0.2 to −0.1)
Wait-listed for a kidney transplant	25.6 (43.6)	23.4 (42.3)	26.6 (44.2)	−3.2 (−3.3 to −3.0)
Receiving home dialysis[b]				
All types	10.9 (31.2)	10.0 (31.0)	11.1 (31.4)	−0.2 (−0.3 to −0.1)
Peritoneal dialysis[c]	8.8 (28.3)	8.6 (28.0)	9.0 (28.7)	−0.4 (−0.4 to −0.3)
Home hemodialysis	2.1 (14.3)	2.2 (14.8)	2.1 (14.2)	0.2 (0.1 to 0.2)
Self-dialyzing in-center (all modalities)	0.02 (1.4)	0.02 (1.3)	0.02 (1.5)	−0.007 (−0.01 to −0.003)
Receiving hemodialysis in-center	84.5 (36/1)	85.0 (35.7)	85.3 (35.4)	0.6 (0.5 to 0.7)
Deaths per 1000 patient-years, mean (SD)[d]	132.0 (1256.2)	129.5 (1245.1)	133.1 (1262.4)	−3.6 (−5.7 to −1.5)
Patients				
No.	68 467l	20 907	47 560	NA
Attributed patient-months, No.	6 178 855	1 923 749	4 255 106	NA

Abbreviations: ETC, End-Stage Renal Disease Treatment Choices model; NA, not applicable.

[a] Facility-level values weighted by attributed patient-months; *t* tests were used to obtain 95% CIs, comparing variable values for ETC-assigned vs control facilities, with Bonferroni corrections for 27 comparisons applied.

[b] Dialysis modality statistics identified using the US Renal Data System Detailed Treatment History RXHIST file.

[c] Peritoneal dialysis statistics include continuous ambulatory peritoneal dialysis, continuous cycling peritoneal dialysis, and other peritoneal dialysis.

[d] Patient-months for deaths per 1000 patient-years (including patient-months with missing modality information): all facilities, 6 225 263; ETC-assigned facilities, 1 937 093; and control facilities, 4 288 170.

Table 2. Estimated ETC Association With the Proportion of Home Dialysis Use Using a Controlled Interrupted Time Series Analysis

Metric	Estimate (95% CI)		
	Before January 2021	After January 2021	Difference, after vs before January 2021
Use of home dialysis, %			
Difference, ETC vs non-ETC[a]	−0.75 (−1.96 to 0.46)	0.32 (−1.08 to 1.72)	1.07 (0.16 to 1.97)
Rate of increase of home dialysis use, % per year			
Overall[a]	0.86 (0.75 to 0.97)	1.66 (1.15 to 2.18)	0.81 (0.28 to 1.33)
Difference, ETC vs non-ETC[b]	−0.16 (−0.37 to 0.06)	0.85 (0.00 to 1.69)	1.00 (−0.27 to 2.27)

Abbreviation: ETC, End-Stage Renal Disease Treatment Choices.

[a] Estimates were based on the final model with main effects of time, ETC, and pre-post implementation, and 2-way interactions of time and pre-post implementation and of ETC and pre-post implementation. The 2-way interaction of time and ETC assignment and the 3-way interaction of time, ETC assignment, and pre-post implementation were not statistically significant and thus were removed from the final model.

[b] Estimates were based on the initial model including the 3-way interaction of time, ETC assignment, and pre-post implementation and all 2-way interactions (time and ETC, time and pre-post implementation, ETC and pre-post implementation) to examine whether any changes in use trends after ETC onset differed by ETC assignment.

ORIGINAL ARTICLE

Quality of Life, Outcomes

Assessing the impact of transitional care units on dialysis patient outcomes: A multicenter, propensity score-matched analysis

Derek M. Blankenship[1] | Len Usvyat[1] | Michael A. Kraus[1] | Dinesh K. Chatoth[1] | Rachel Lasky[1] | Joseph E. Turk Jr.[1] | Franklin W. Maddux[2]

TABLE 1 Baseline characteristics of TCU and matched controls.

Variable	TCU (*N* = 724) %	Matched controls (N = 2892) %
Index dialysis timing		
2019 Q3	12.2	11.9
2020 Q1	29.3	29.3
2020 Q2	24.3	24.7
2020 Q3	34.3	34.2
Facility region		
Northeast	16.4	16.4
Southeast	17.5	18.1
South	19.5	18.0
North-Midwest	15.7	16.8
Midwest	15.5	15.3
West-Midwest	15.3	15.4

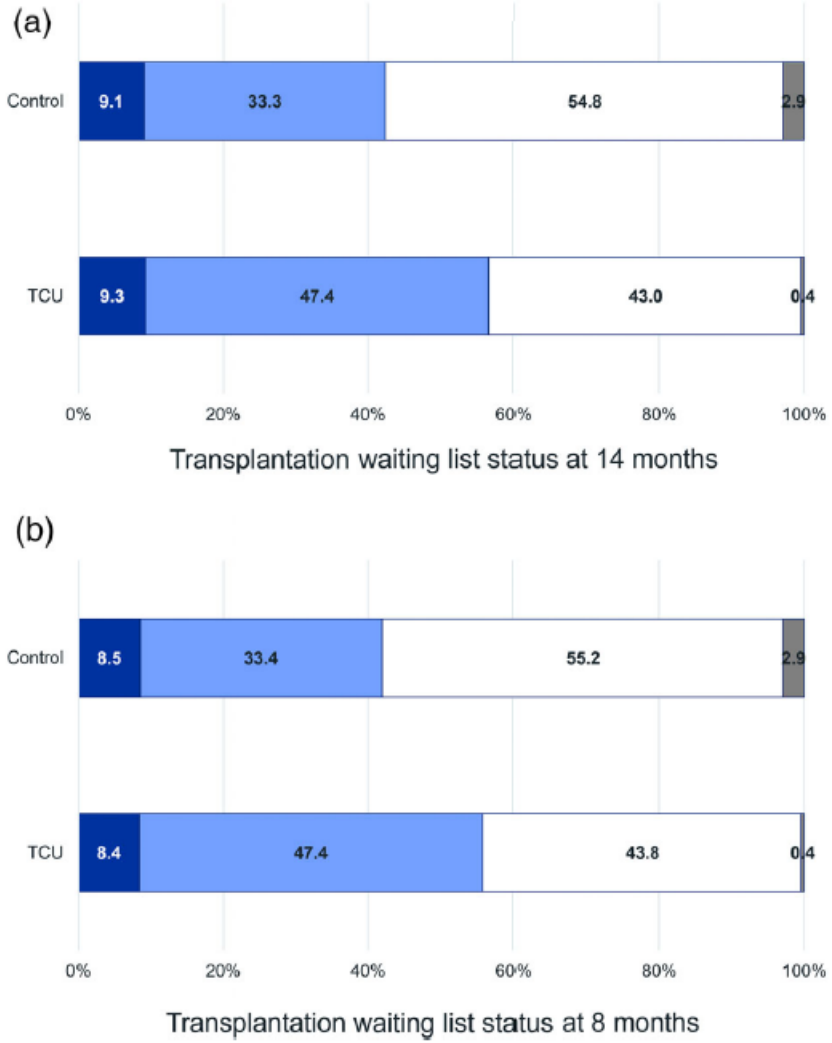


FIGURE 3 Transplantation waiting-list status by cohort at (a) 14 months (primary analysis) and at (b) 8 months (sensitivity analysis). $p < 0.0001$ for both analyses. TCU, transitional care unit. Percentages do not add up to 100% in some cases because of rounding. Wait-listed or living-related donor scheduled. Referred but not wait-listed. Not referred. No documentation.

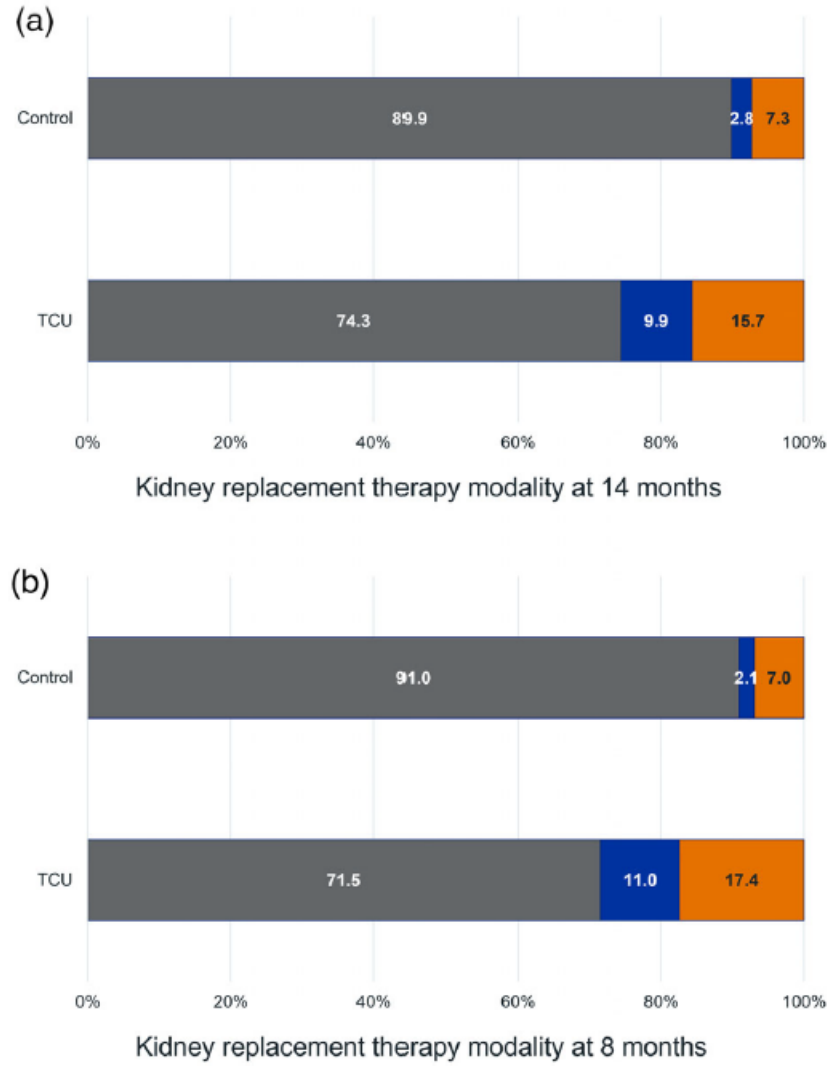


FIGURE 4 Kidney replacement therapy modality at (a) 14 months (primary analysis) and at (b) 8 months (sensitivity analysis). $p < 0.0001$ for both analyses. TCU, transitional care unit. Percentages do not add up to 100% in some cases because of rounding. In-center hemodialysis. Home hemodialysis. Peritoneal dialysis.

Utilization of Home Dialysis and Permanent Vascular Access at Dialysis Initiation Following a Structured CKD Education Program

Kidney Medicine

Methods

- Matched retrospective cohort study
- Adults with CKD
- Received education prior to dialysis initiation
- One-time in-person / virtual class

Cohort

No prior CKD education

Matched controls

2398 CKD patients

Received prior CKD education

Results

Primary outcomes

	Home Dialysis	Permanent Vascular Access
	12.6%	33.8%
P < 0.001	38.5%	57.9%

Secondary outcomes

	Hospitalization	Mortality
	1.38 Admissions/ patient year	Higher mortality in the first year
P < 0.001	1.00	Lower Mortality

Conclusion: Attending a CKD education class prior to starting dialysis was associated with positive clinical outcomes, including lower hospitalization and mortality rates.

Reference: Mckeon K, Sibbel S, Brunelli SM et al. Utilization of home dialysis and permanent vascular access at dialysis initiation following a structured CKD education program. *Kidney Medicine*; 2022.

Visual abstract by Dr PS Vali, MD, DM

@DrPSVali

Cricket Health has developed a track record of improving clinical outcomes for people with kidney disease, which in turn results in lower costs for health plan partners. In both Texas and California, across Commercial and Medicare Advantage health plan partnerships, Cricket Health has shown marked improvements in key clinical measures for its populations living with kidney disease, including:

- More than 50 percent fewer hospital admissions than the status quo;
- 77 percent of those starting dialysis do so in an outpatient setting (compared to the status quo of 40 percent);
- 45 percent who need dialysis are initiating at home (compared to the status quo of 11 percent); and
- 60 percent of those starting dialysis do so with a permanent access placed (compared to the status quo of 45 percent).

Care coordination: Time will tell

Monogram to date, with the experience of over 66,000 patients across 34 states, has produced results that are better than national averages (from the 2022 USRDS annual report). Monogram patients experience more effective management of their hypertension and A1C. Through the early identification of disease progression program, Monogram reports twice as many planned dialysis starts with permanent access when compared to national averages. And Monogram reports 18% of patients initiating dialysis at home (versus 13.3% national average).

Strive's innovative approach to value-based kidney care has yielded strong results, with a 20% reduction in the total cost of care, 42% reduction in hospital admits, 86% improvement in optimal starts of renal replacement therapy, and greater than 90% patient satisfaction.

Association between patients' dialysis modality with driving and straight -line distances to the closest HD- and PD-providing units

Kidney360

Initiated in-center Hemodialysis or Peritoneal dialysis
n= 102,247

2017

2017

On dialysis for ≥ 30 days

18-90 years

Patients in residence zip codes in non-conterminous US or lived >90 miles from the nearest HD-providing unit were excluded

Driving distances to nearest dialysis unit

p<0.001

4.4 miles
Peritoneal dialysis

3.4 miles
Hemodialysis

30

Patients who lived >30 miles from the nearest HD unit were more likely to be on PD if the nearest PD unit was a distance equal to/ less than the HD unit

PD utilization increased with increasing distance from patients' homes to the nearest HD unit

No change in this association was found regardless of if the PD unit was farther/closer than the\ nearest HD unit

This association was not seen with straight line distance analysis

Conclusions With increasing distances from the nearest dialysis providing units (HD or PD), PD utilization increased. Using driving distance rather than straight line distance affects data analysis and outcomes. Increasing the number of PD units may have a limited impact on increasing PD utilization.

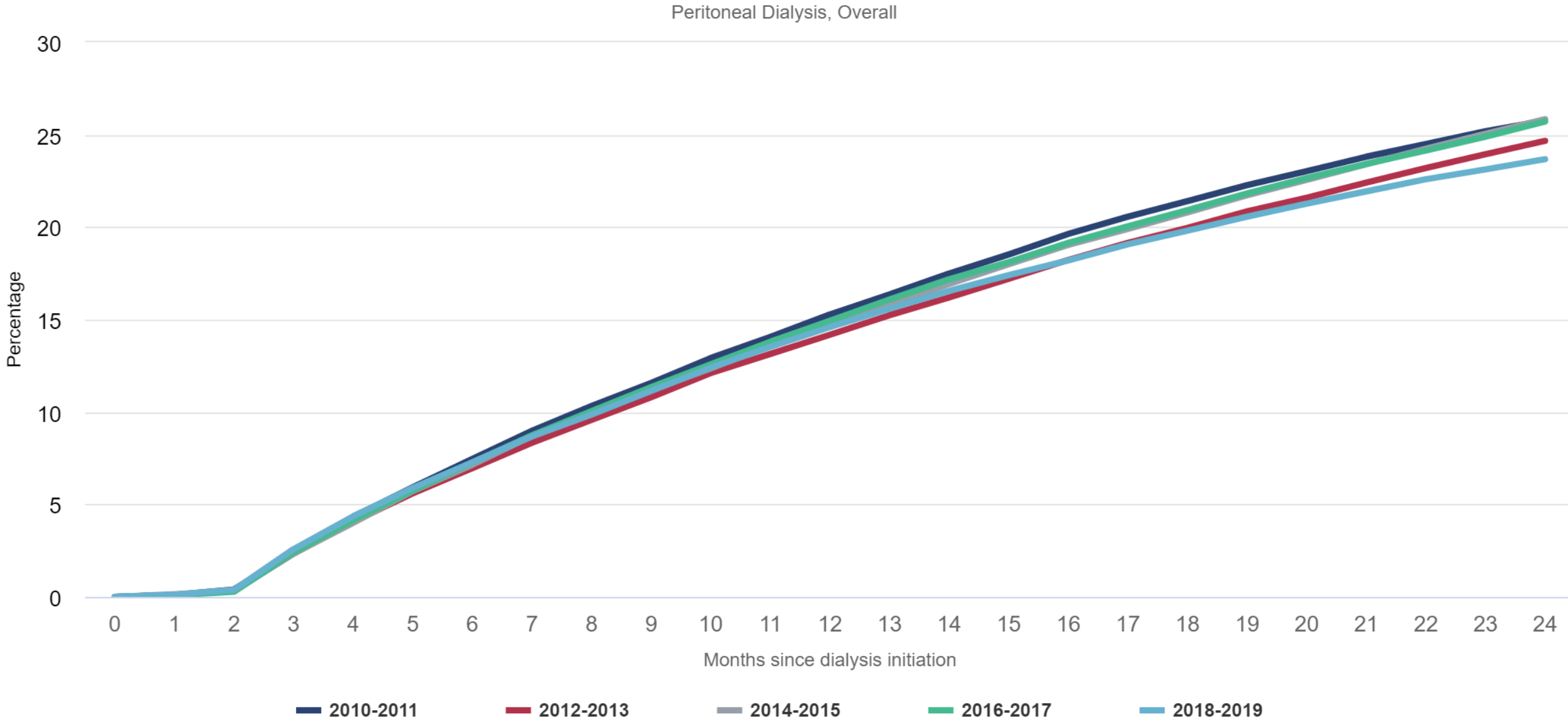
Pattharawin Pattharanitima, Osama El Shamy, Kinsuk Chauhan, *et al.* ***The association between prevalence of peritoneal dialysis vs hemodialysis and patients' distance to dialysis-providing facilities.*** *Kidney360*. DOI: 10.34067/KID.0004762021

Visual Abstract by Edgar Lerma, MD, FASN

Home dialysis attrition

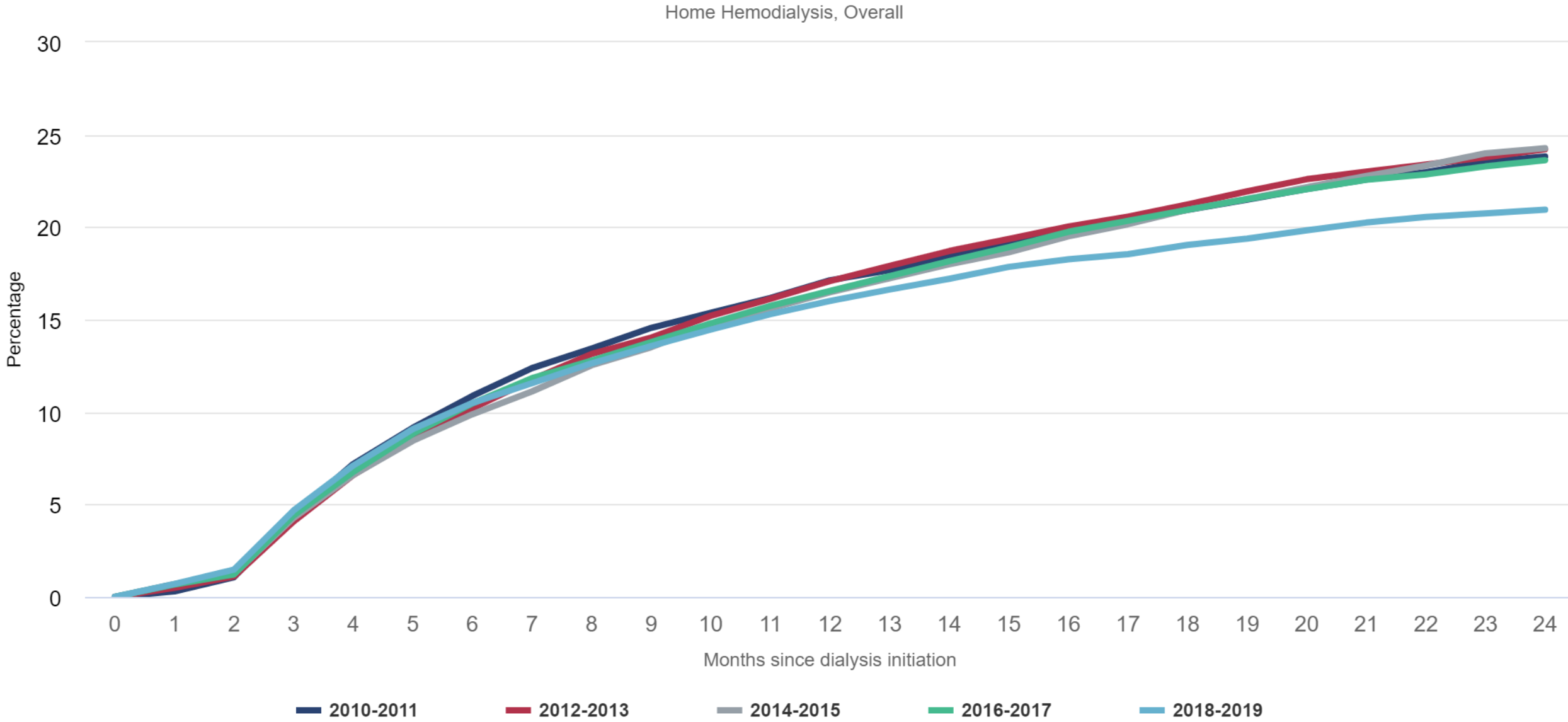
A very brief look

Figure 2.14 Cumulative incidence of conversion from home dialysis to in-center hemodialysis, by modality and year of home dialysis initiation, 2010-2019



Data Source: 2022 United States Renal Data System Annual Data Report

Figure 2.14 Cumulative incidence of conversion from home dialysis to in-center hemodialysis, by modality and year of home dialysis initiation, 2010-2019



Data Source: 2022 United States Renal Data System Annual Data Report

Conclusions

- Many nudges are helping home dialysis grow
  - ESRD Treatment Choices
  - Transitional care programs
  - Care coordination (targeting “Optimal ESRD Starts”)
- Hints of a decrease in home dialysis attrition
- But… we are not at escape velocity.
  - Consider the utilization of PD among incident ESKD patients.

US (2022 Q2)	Australia	Canada	New Zealand	United Kingdom
15%	27%	22%	34%	22%