



# Progress in Tackling Barriers to Home Dialysis in the States

Osama El Shamy, MD

Assistant Professor of Medicine

Vanderbilt University Medical Center

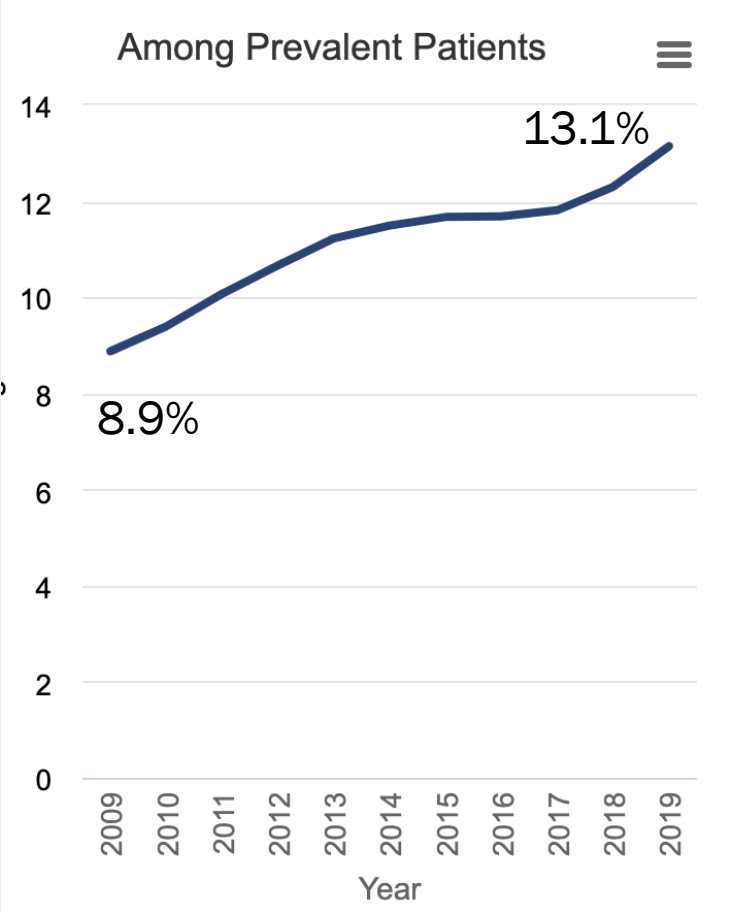
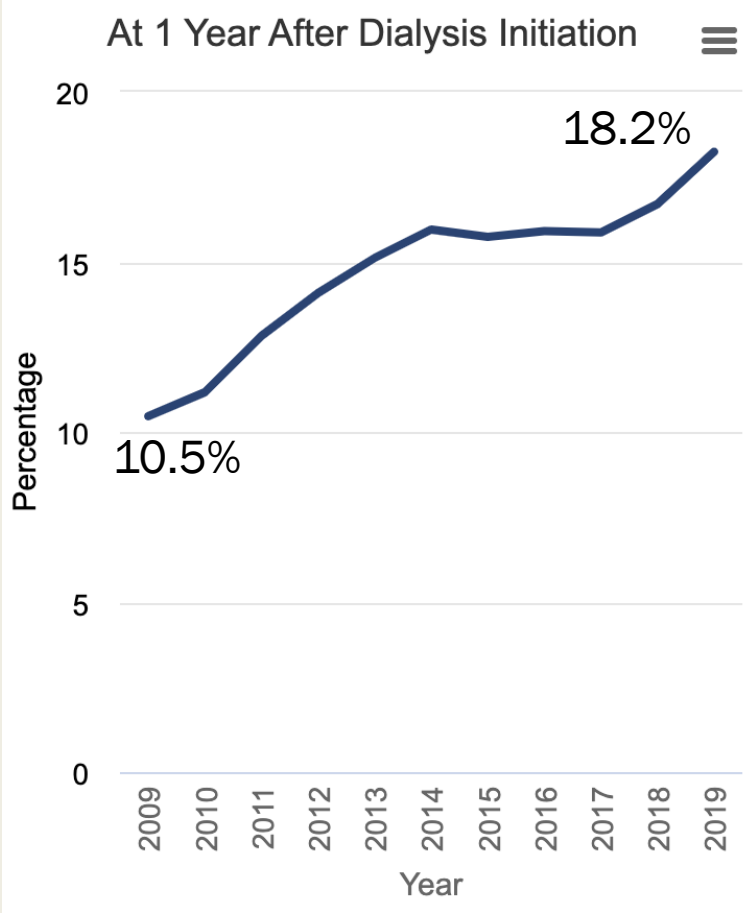
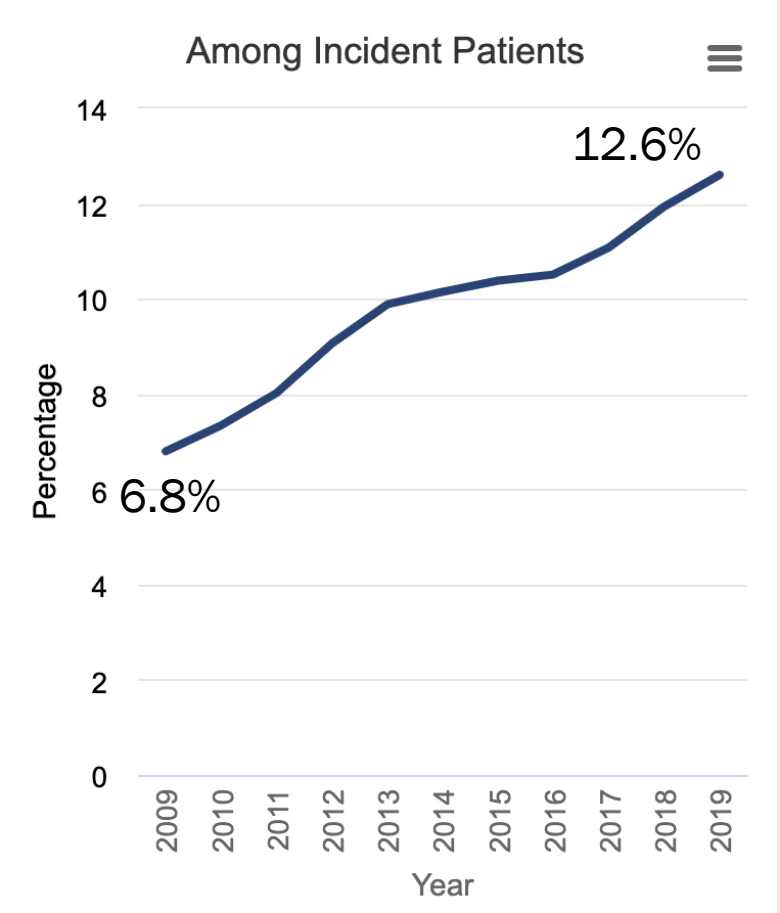
# Disclosures

- **Consultant:** Outset Medical
- **Speaker's Bureau:** Home Dialysis University
- **Financial Interests:**
  - American Society of Nephrology (NephSAP, Chapter author)*
  - UpToDate (Author and Reviewer)*

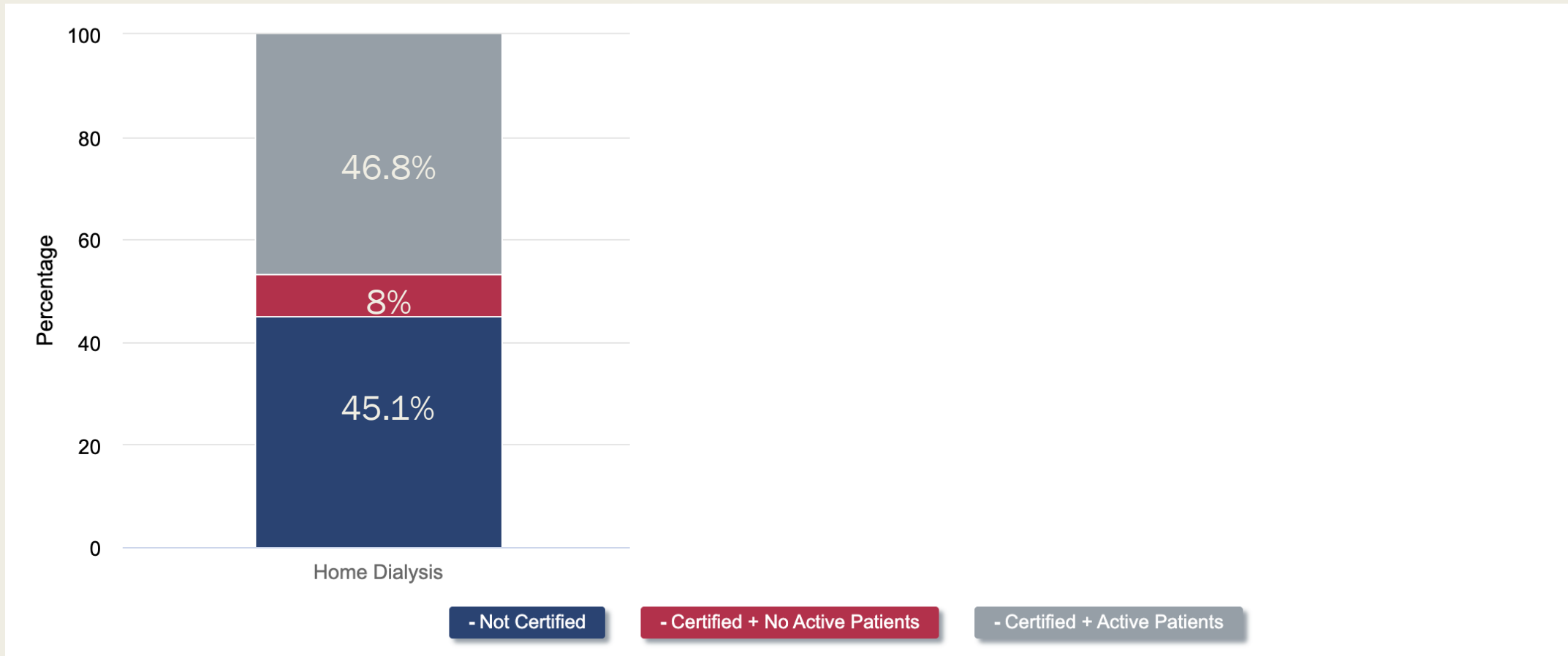
# Outline

- Landscape of home dialysis across the United States
- Socioeconomic and Racial disparities
- Follow the money: Policy-level facilitators
- Telehealth & Patient Care
- Room for Improvement

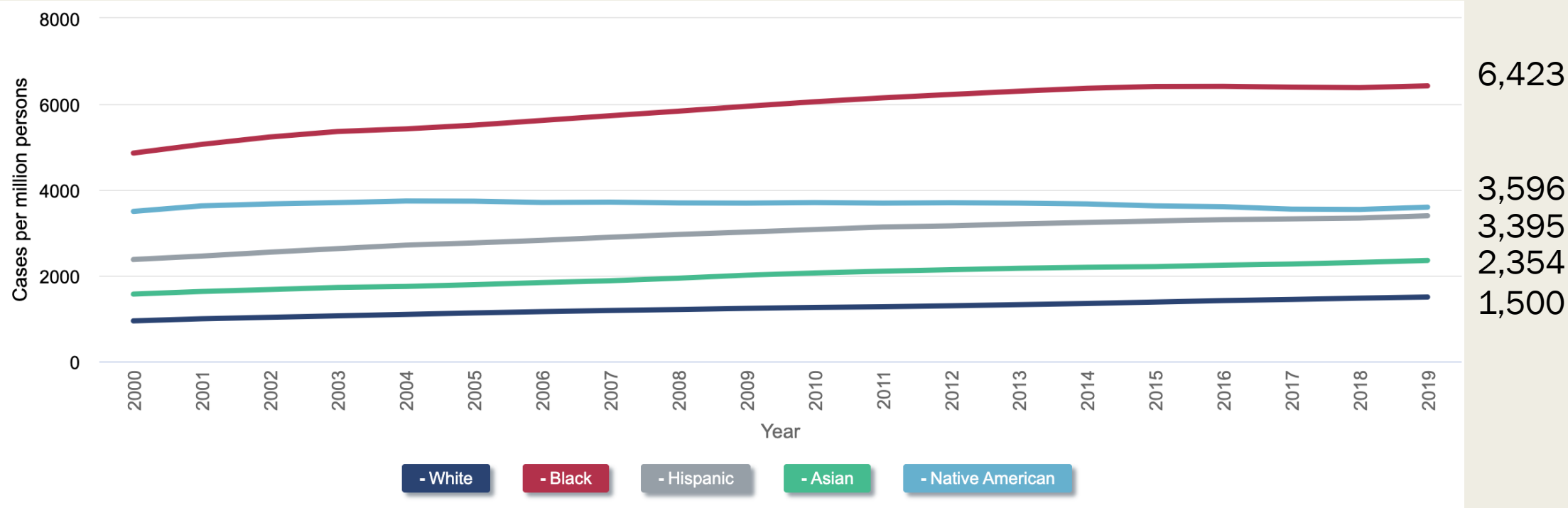
# Landscape of Home Dialysis in the United States



# Facilities offering Home Dialysis (2019)



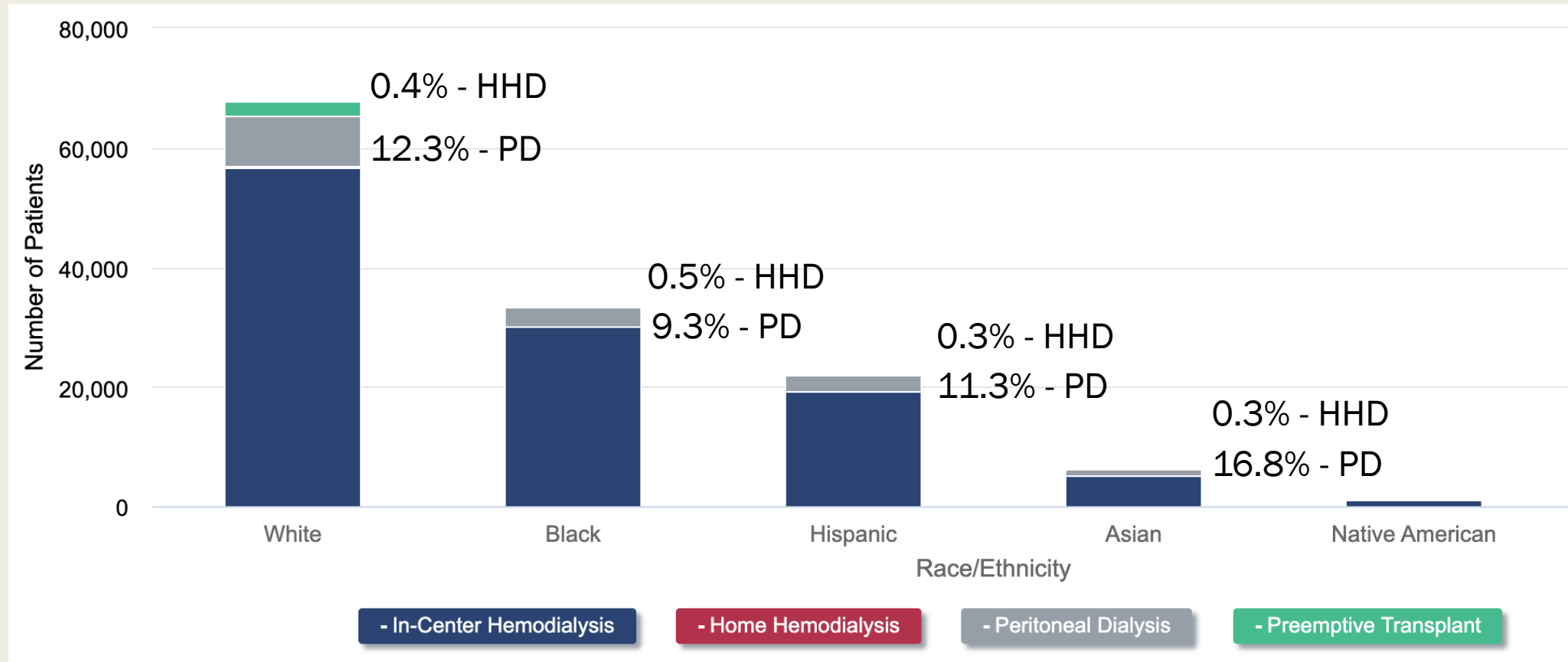
# Prevalent ESRD Patient Characteristics



US Census for 2019: 13.4% Black  
 1.2% Native American  
 18.5% Hispanic  
 6% Asian  
 = **39.1%** of the US population

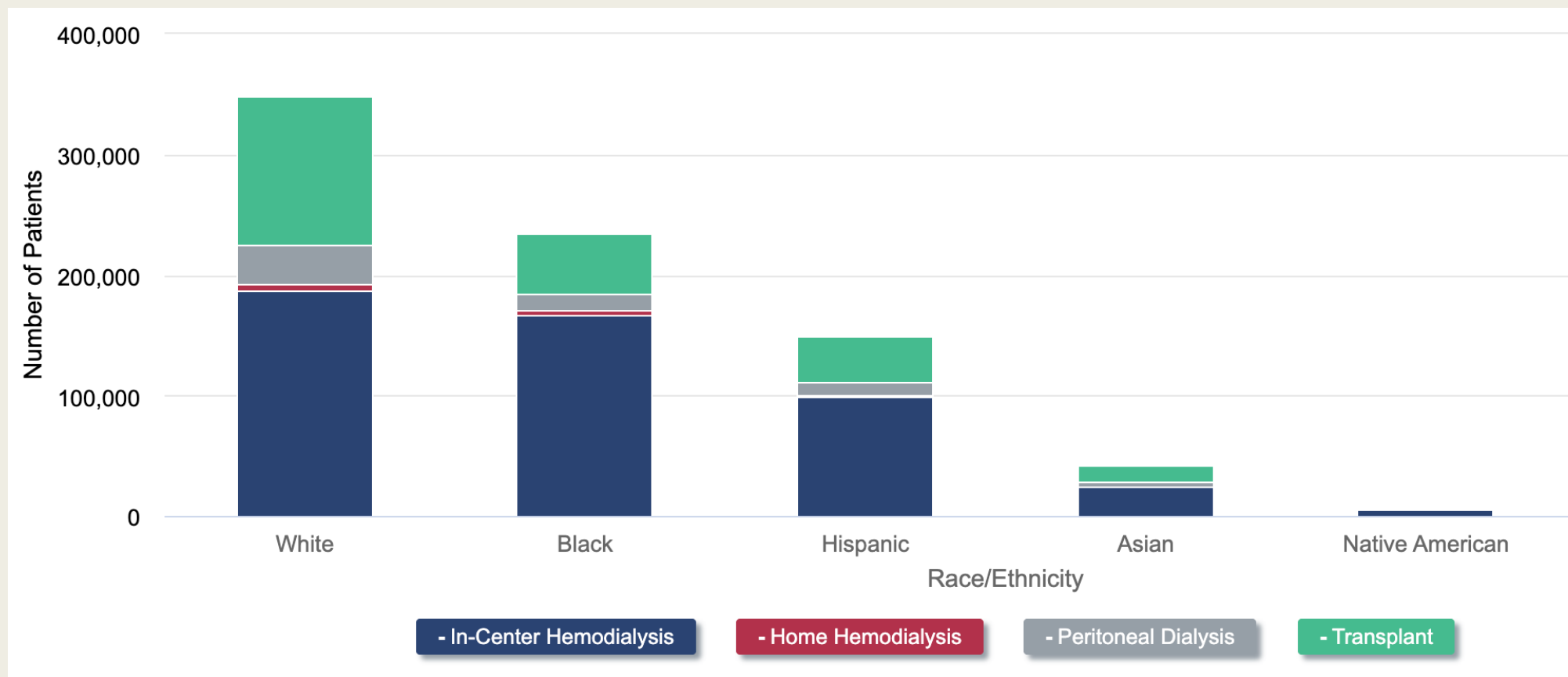
United States Renal Data System. 2021 *USRDS Annual Data Report: Epidemiology of kidney disease in the United States*. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2021

# Incident ESRD Modality by Race/Ethnicity (2019)



# You get the idea...

Prevalent ESRD Modality by Race/Ethnicity (2019)







# **SOCIOECONOMIC & RACIAL DISPARITIES**

Assessment of patients:

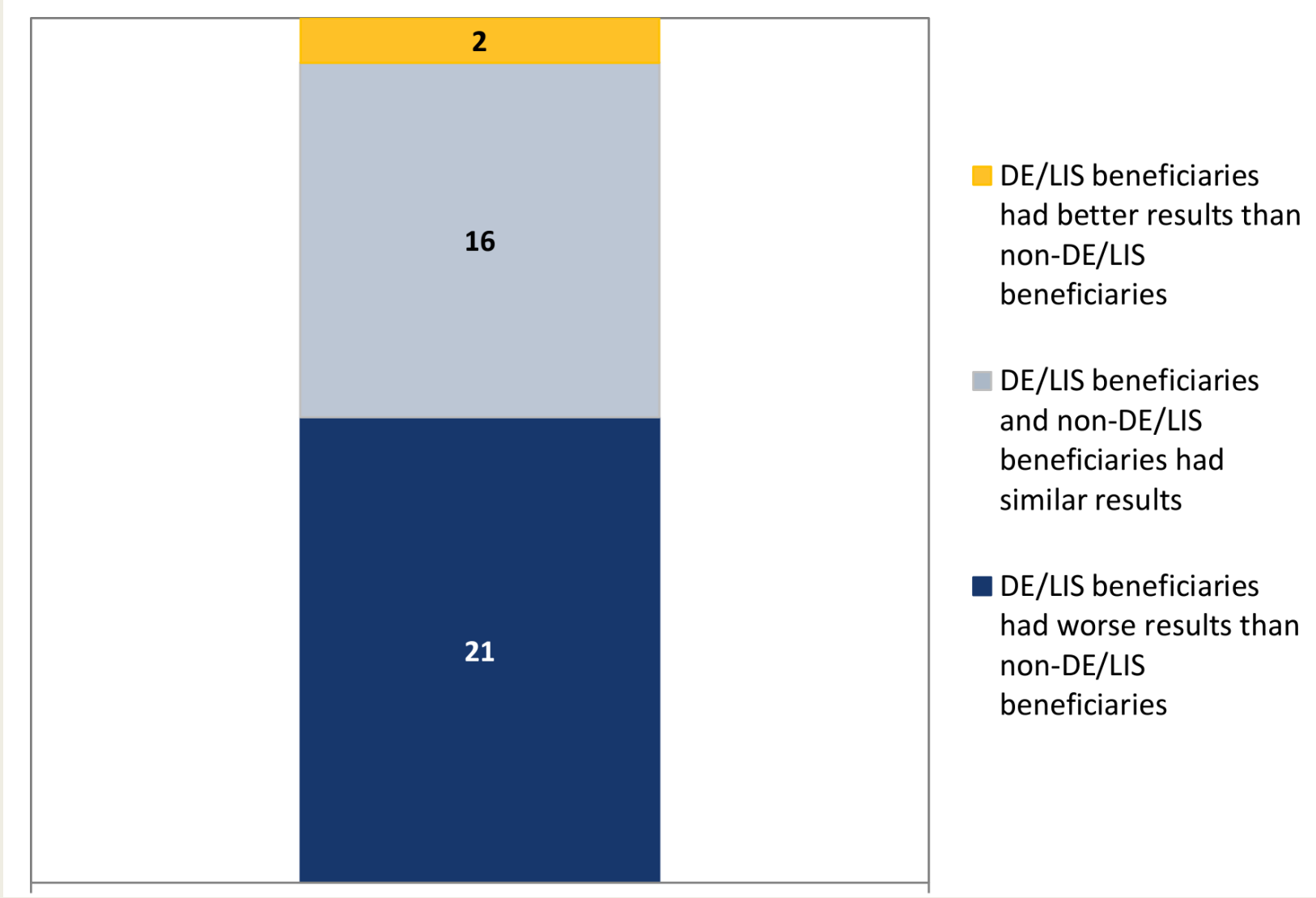
1) Dual Eligible (**DE**) for Medicare and Medicaid

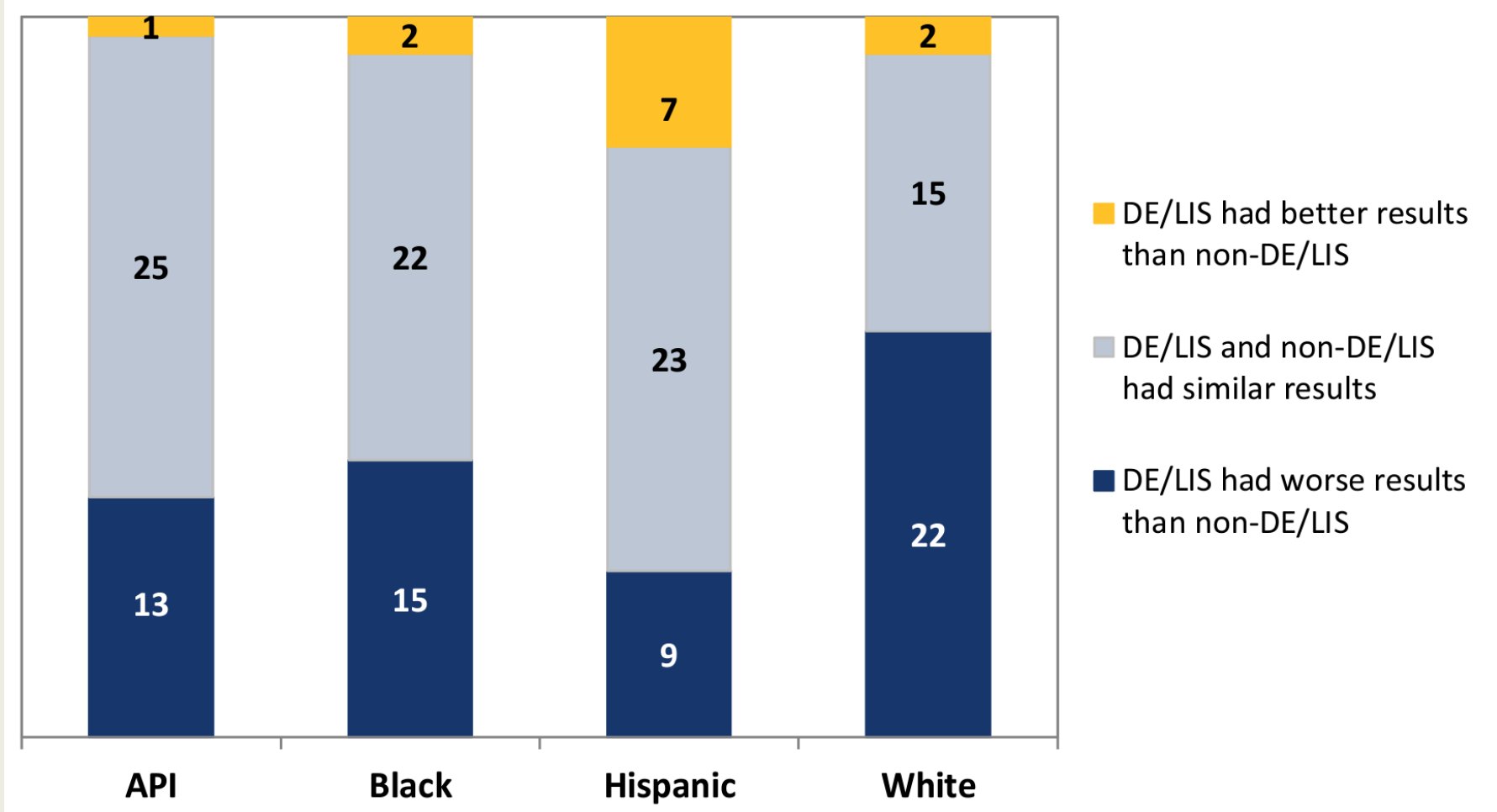
2) Low-Income Subsidy (**LIS**)

**21%** Black/African American

**18%** Hispanic/Latino

- Prevention and Screening
- Respiratory
- Cardiovascular
- Diabetes
- Musculoskeletal
- Behavioral Health
- Medication management
- Access to & Availability of care





Martino, SC, Elliott, MN, Dembosky, JW, Hambarsoomian, K, Klein, DJ, Gildner, J, and Haviland, AM. Disparities in Health Care in Medicare Advantage Income Subsidy . Baltimore Associated with Dual Eligibility or Eligibility for a L , MD: CMS Office of Minority Health. 2021

# Examining Home Dialysis Initiation Rates

CMS data

Incident dialysis patients  
January 2017 – June 2020

4 measures of **social risk** identified and analyzed:

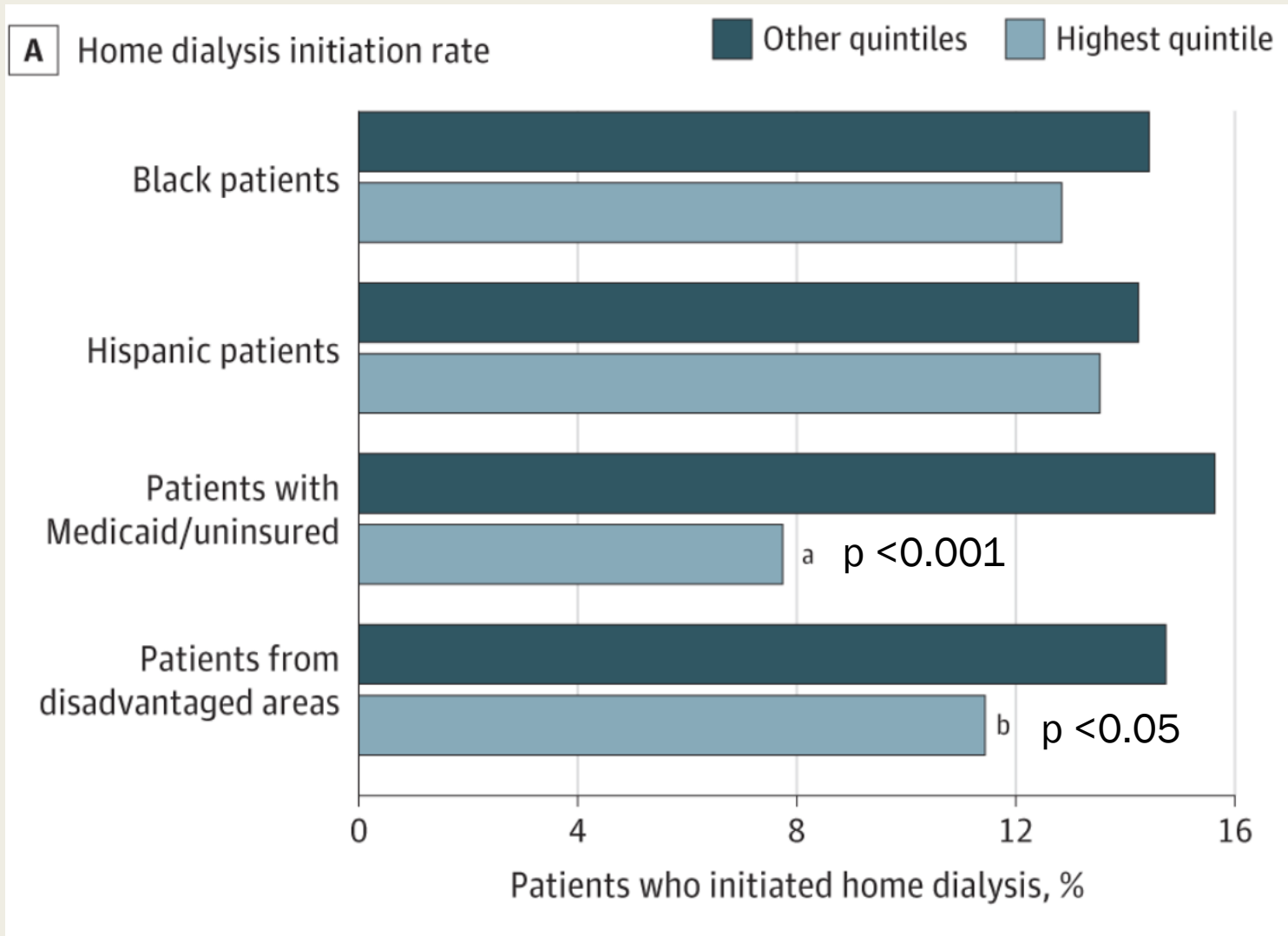
- Non-Hispanic Black
- Hispanic
- Medicaid/uninsured
- Disadvantaged areas

422,831 total patients



479 (28%) had 1 social risk factor  
410 (24%) had 2 or more social risk factors

Characteristics	Composite social risk score <sup>a</sup>		
	0	1	≥2
Incident patient outcomes at facility group level, mean (SD), % <sup>e</sup>			
Initiating with home dialysis	15.6 (23.1)	15.4 (24.4) [ <i>P</i> = .89]	9.3 (18.2) [ <i>P</i> < .001]
With kidney transplant by 1 y <sup>f</sup>	3.6 (4.6)	2.3 (3.1) [ <i>P</i> < .001]	1.7 (3.3) [ <i>P</i> < .001]
With living-donor kidney transplant by 1 y <sup>f</sup>	1.9 (2.9)	1.3 (2.4) [ <i>P</i> < .001]	0.9 (2.1) [ <i>P</i> < .001]



# Role of Geography in Home Dialysis Initiation

Surely the North East is better than the rest?

2012 Medicare fee-for-service

369,164 patients

Examined trends in peritoneal dialysis and home hemodialysis initiation by race in each region:

- South
- North East
- Midwest
- West
- National (total cohort)



Using the White race as the reference group...  
which region do you think did best?



	Regions	Black	Asian	Hispanic	Other
Peritoneal dialysis	South North East Midwest West National				

Doesn't really matter much where you are...it's across the board

# Socioeconomic & Racial Disparities

## *Progress*

### ■ Health Equity Incentive:

Introduced by CMS to the End-Stage Renal Disease Treatment Choices (ETC) model

Additional **improvement points awarded** for ETC facilities that show significant improvement in **home dialysis/transplant rates** amongst patients :

- 1) Dual-eligible for Medicare & Medicaid
- 2) Low-Income Subsidy recipients



**FOLLOW THE  
MONEY: POLICY-  
LEVEL  
FACILITATORS**

Previous policy barriers associated with financial loss for home dialysis vs in-center

Some reforms **miss the mark**, or have **unintended consequences**

In **2004**, CMS wanted to incentivize high quality care

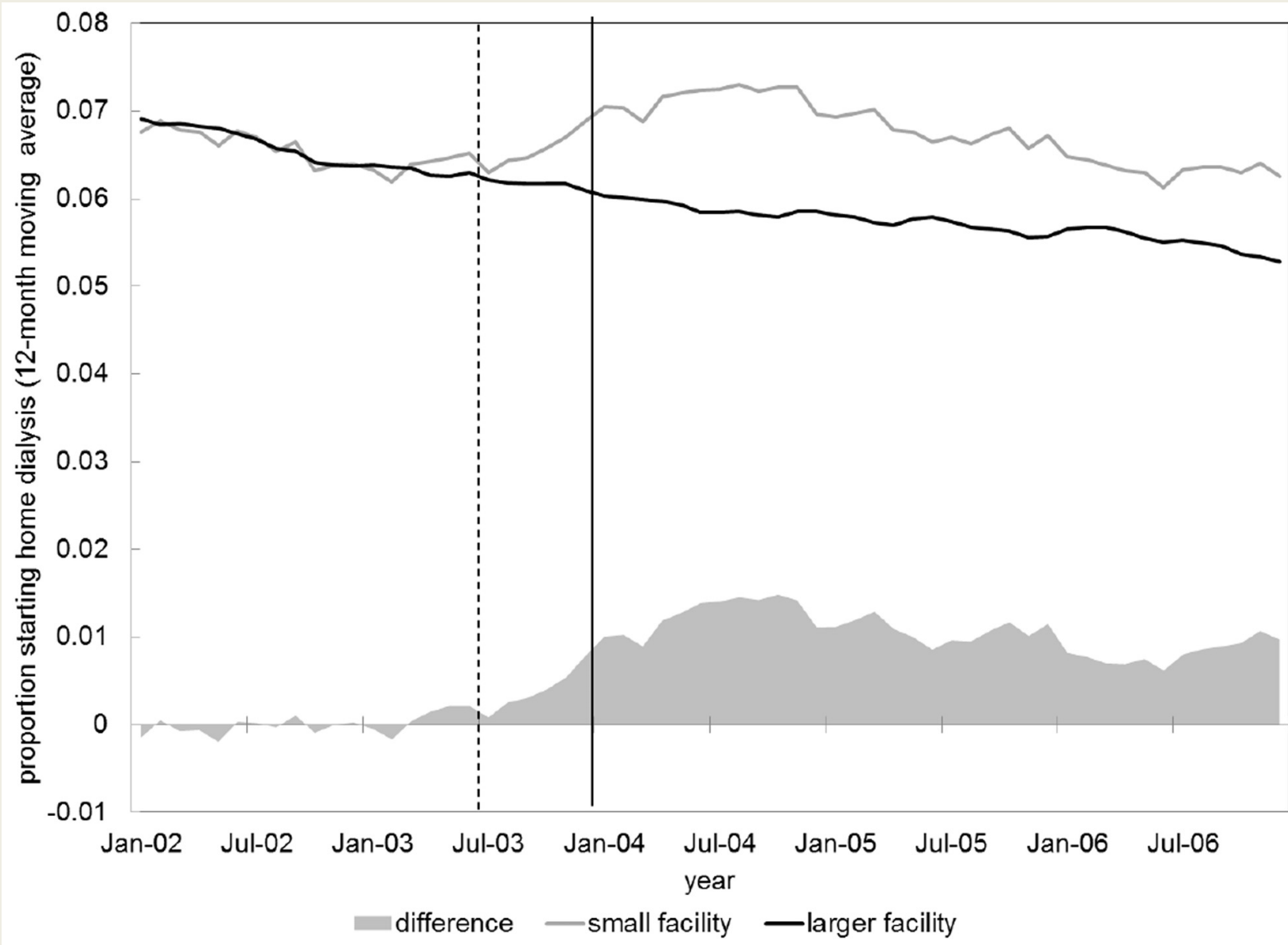
Change from **capitated** to a tiered **fee-for-service** model

Physicians could increase revenue by seeing their in-center HD patients  $\geq$  **4 times a month**

**Result:**

In-center HD **more profitable**

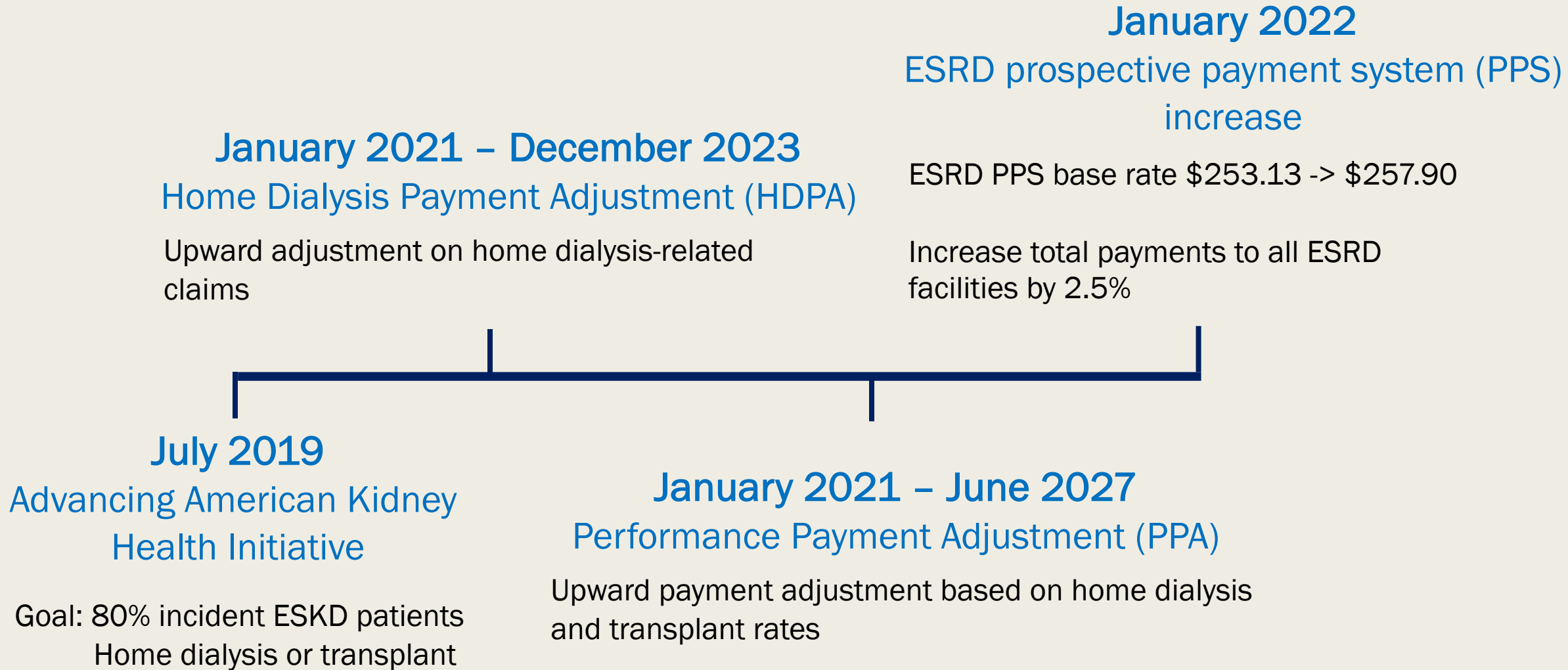
Home dialysis remained capitated and actually decreased



*Dashed line* = Reimbursement reform proposal  
*Solid line* = Final rule

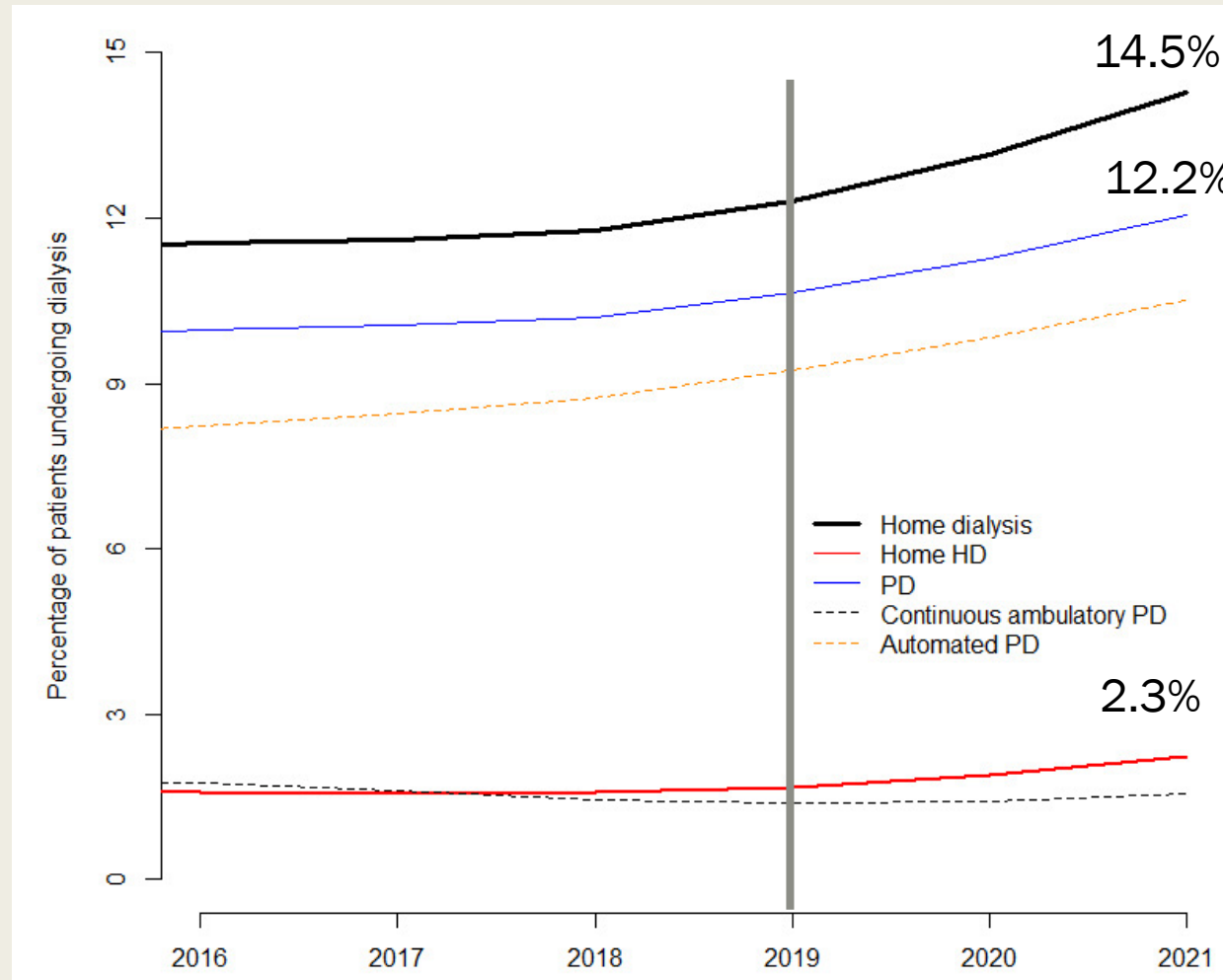
**1% reduction** in the absolute probability of home dialysis

# Further policy changes...



# The Result\*

\*Trends are multifactorial but tend to follow reimbursement rates and their effect on clinical practice







# TELEHEALTH & PATIENT CARE

# Changes pre-pandemic

- **Bipartisan Budget Act of 2018:**

Starting January 2019, Medicare coverage for telehealth services

Two pre-requisites

- 1) First 3 months' monthly visits face-to-face
- 2) Face-to-face encounters at least once every 3 months

# Changes during pandemic

- All monthly visits may be conducted via telehealth
- Use of both HIPAA and non-HIPAA compliant platforms allowed
- No geographic restrictions
- Audio-only visits also billable



# Barriers to telehealth implementation

Access to stable internet

Security and privacy concerns

**Non-native English speakers**

**Low socioeconomic status**

**Age > 65 years**

+ CMS Medicare Physician Fee Schedule did not extend audio-only visits beyond December 2023

## UCSF General Internal Medicine Practice

### Richard Fine People's Clinic at Zuckerberg San Francisco General Hospital

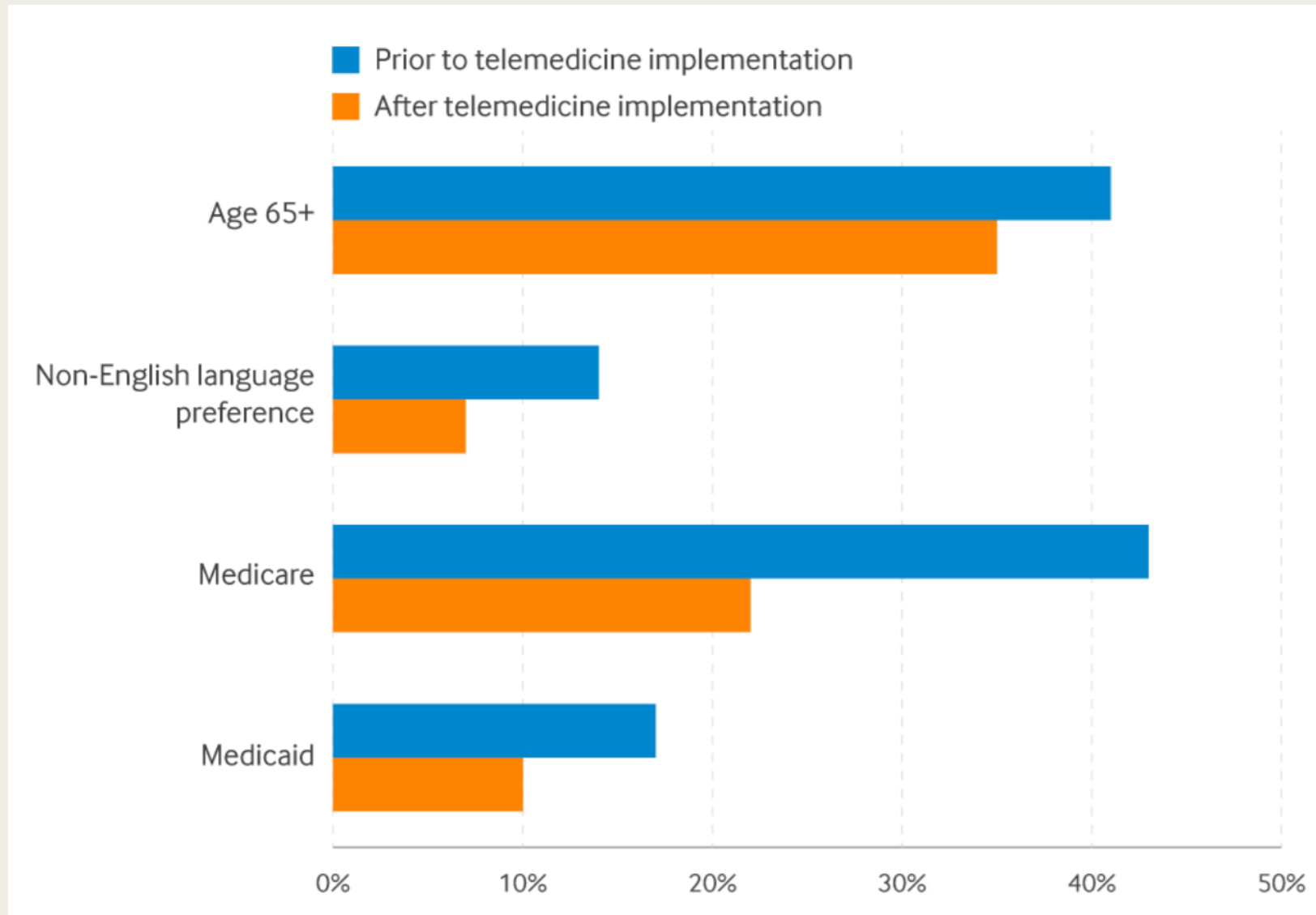
Pre-widespread telemedicine: **3%** of patient encounters

Post-widespread telemedicine: **80%** of patient encounters

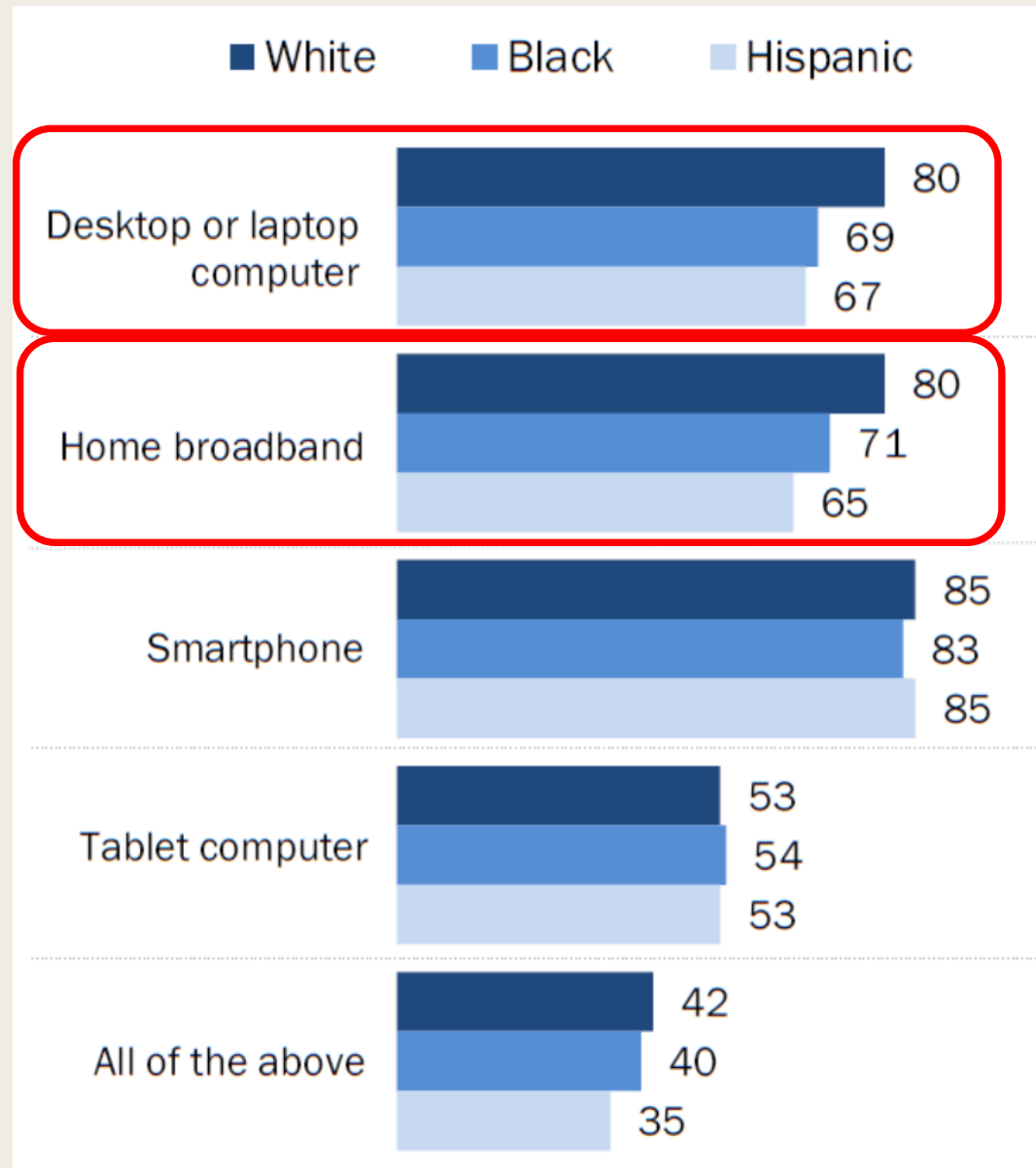
Compared patient characteristics on telehealth over 2-week periods (pre- and post-telemed)

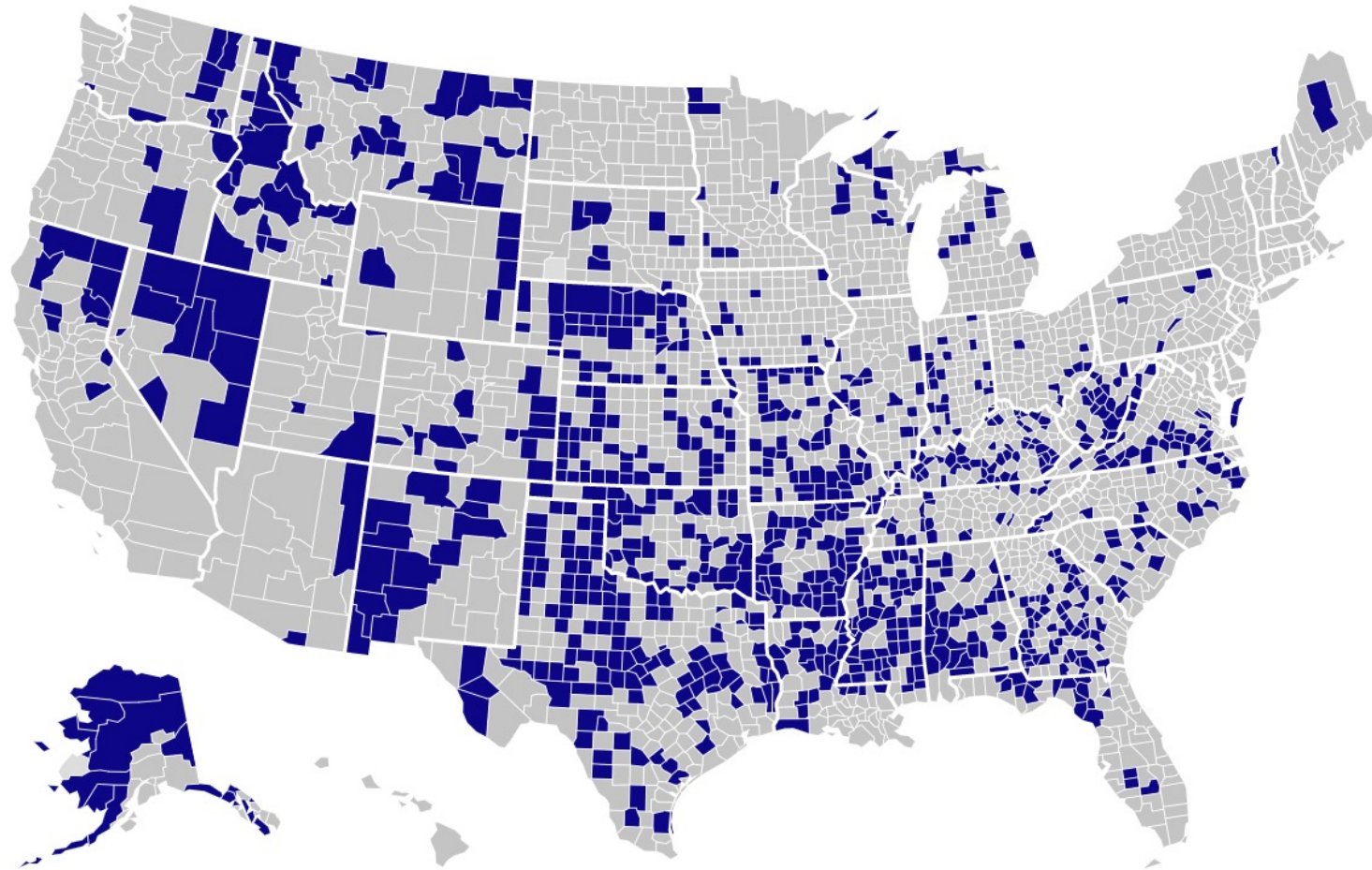
**February 17–28 vs March 23–April 3**

# Proportion of patients using telemedicine



# Access to Internet and Technology





**Percentage of people using the internet at 25Mbps or above per county.**

**■ < 15%**   **■ ≥ 15%**





# Room for improvement in Home Dialysis

- Coverage for **assisted peritoneal dialysis**: currently in effect in Canada, Australia and many European, Asian, Middle Eastern and South American countries

Helps: Minorities and Elderly patients

- Providing modality **educational materials** in patients' **preferred languages** and easy access to interpreter services

Helps: Non-English speaking patients

- Extension of CMS coverage for **audio-only visits** to include home dialysis patients

Helps: Digitally-challenged, Minorities & Elderly patient

- Extension of CMS coverage for patient care **without geographic restriction**

Helps: Low socioeconomic status patients

- Expansion of **broadband infrastructure**

American Jobs Plan - \$65 billion (passed the Senate in August 2021) for universal expansion of fiber broadband networks

Thank you!