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2026 SYMPOSIUM

# *Progress and Paradox:*

## *What the 2025 US Renal Data Service Report Reveals About Dialysis Vascular Access*

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# Disclosure & Acknowledgement

While the Echelon Development Group consults for early stage and commercial stage device companies, I have no financial conflicts relative to this presentation.

Data cited in the presentation as well as the graphics comes from Chapter 4 in the 2025 US Renal Data Service (USRDS) Report available at:

https://usrds-adr.niddk.nih.gov/2025/

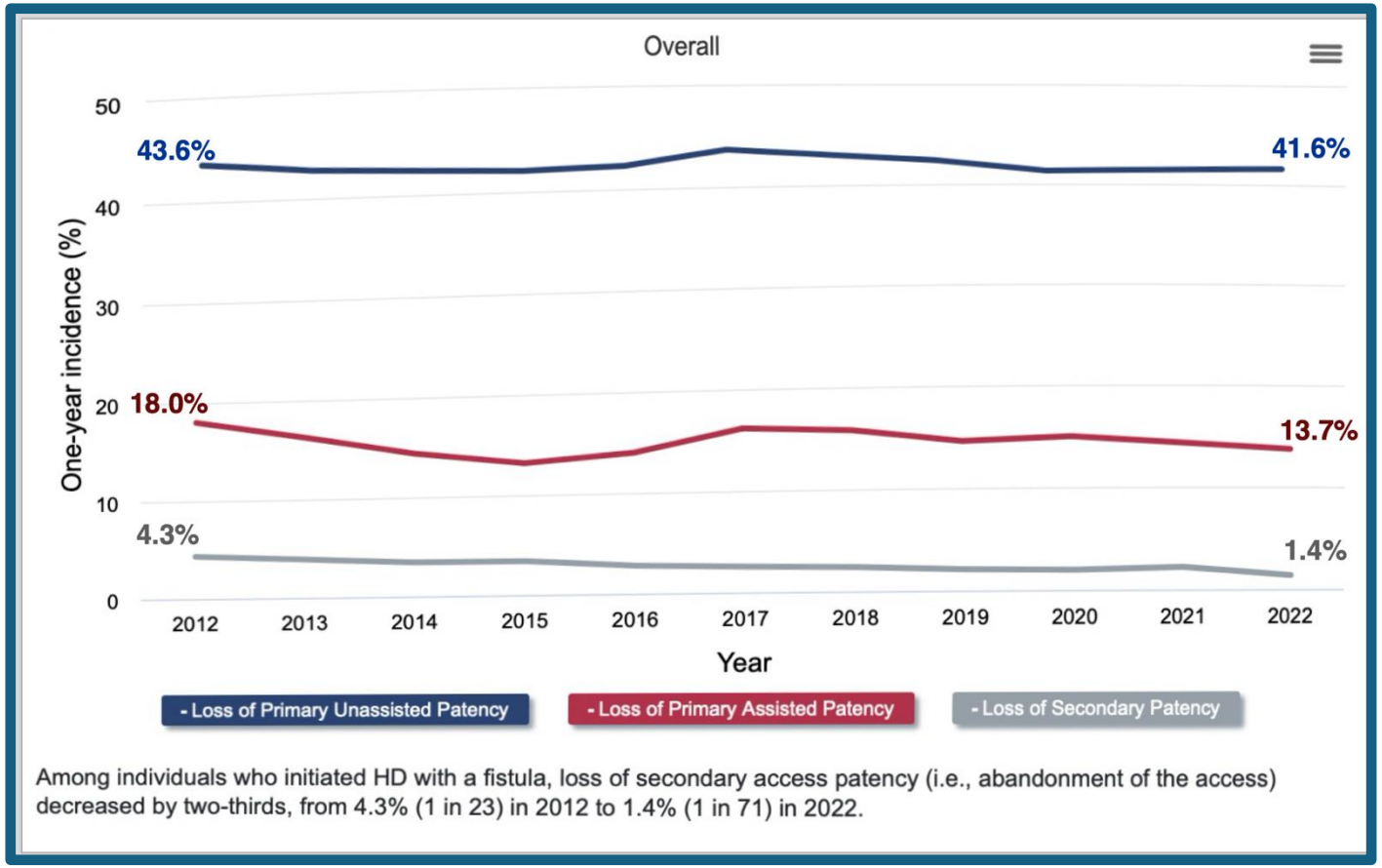
# Three major themes in USRDS 2025 Report

1. Trends of vascular access in use among people initiating hemodialysis
2. Maintenance of vascular access: patency and infection
3. Changes in vascular access type and key clinical outcomes occur over 18 months following the initiation of HD.

# One-year loss of access patency after HD initiation with an AV Fistula: 2012-2022

Among individuals initiating HD with an AVF, loss of 2º patency (abandonment) decreased by two-thirds:

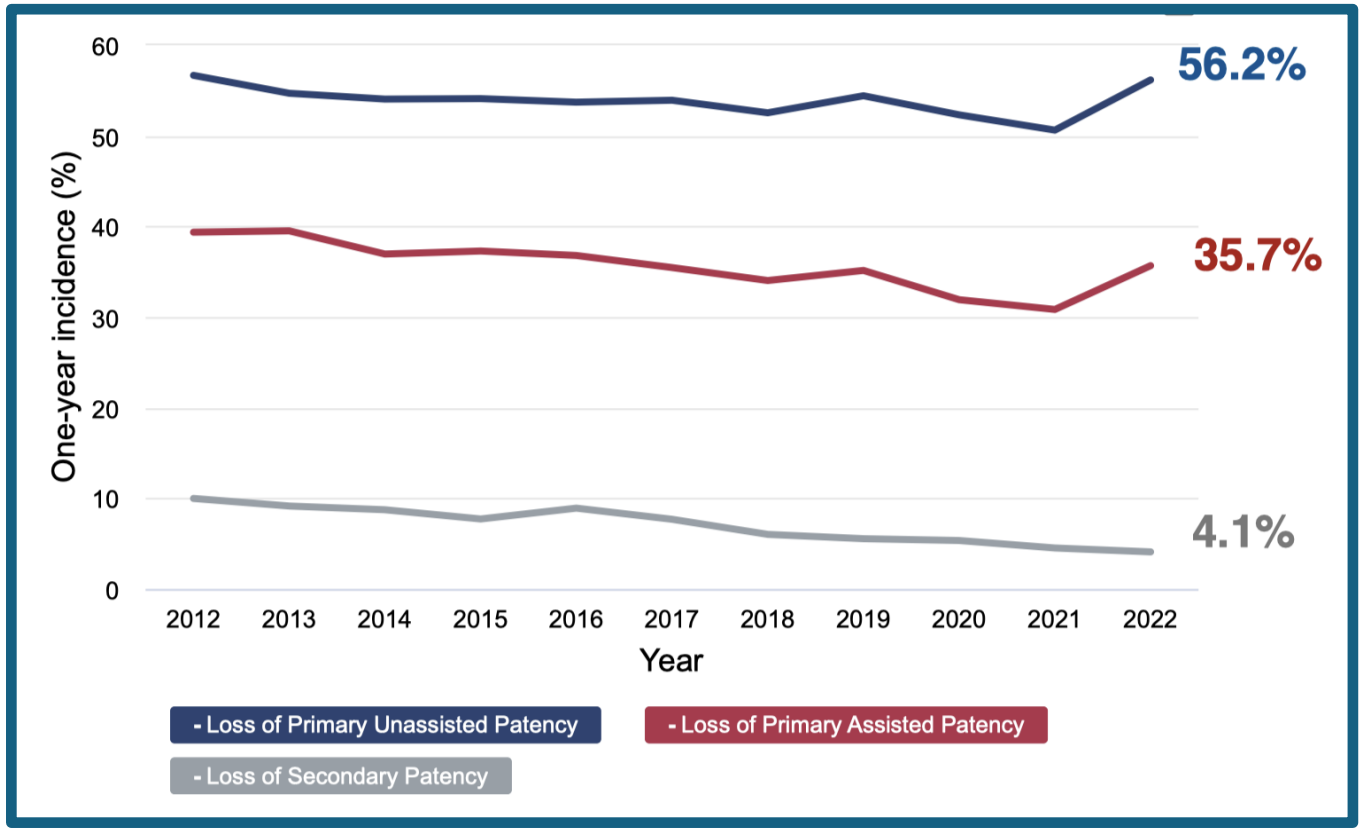
- 4.3% (1/23) in 2012
- 1.4% ( 1/71) in 2022
- 12-month PP = 59.4%
- 12-month PAP = 86.3%



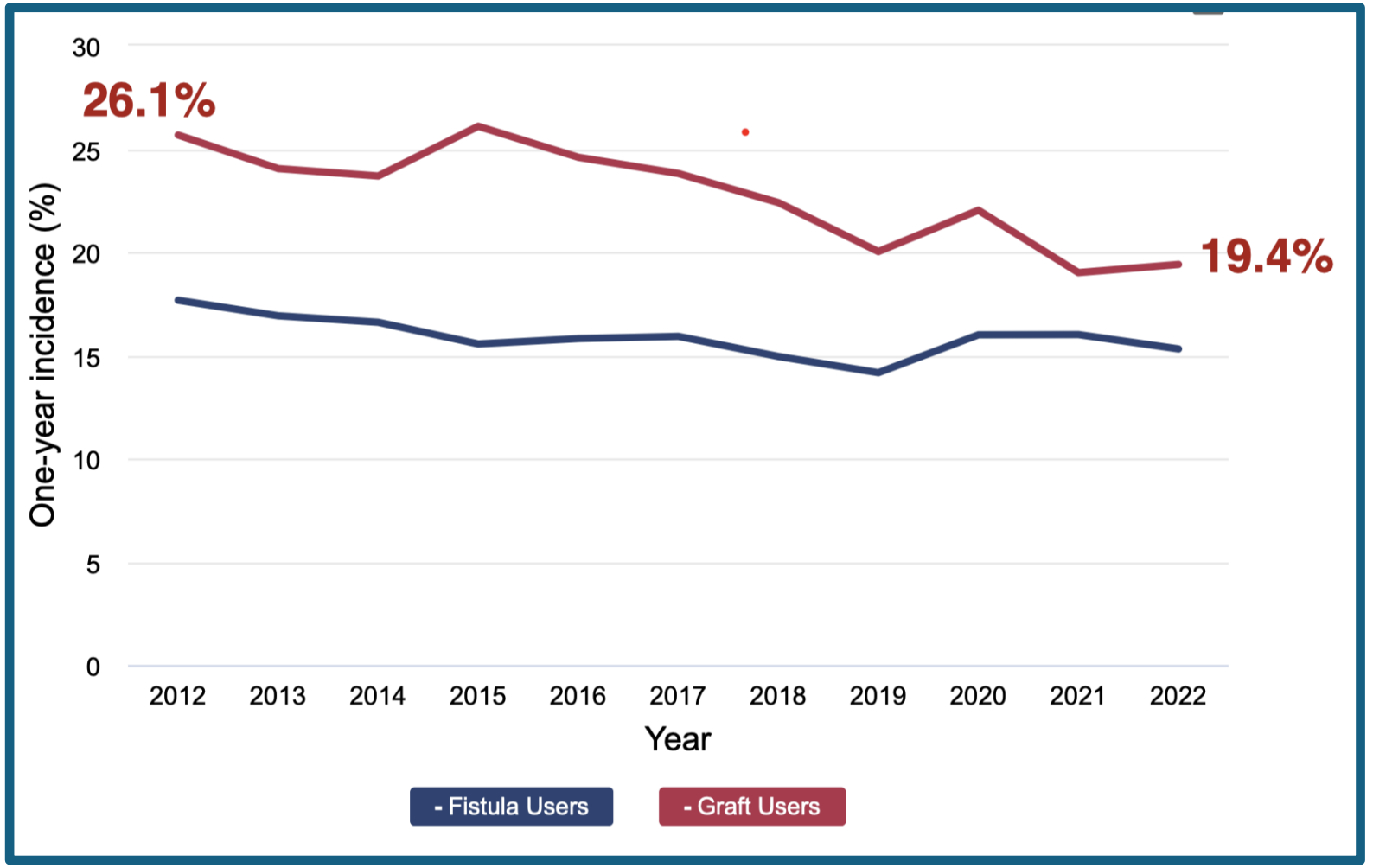

Among individuals who initiated HD with a fistula, loss of secondary access patency (i.e., abandonment of the access) decreased by two-thirds, from 4.3% (1 in 23) in 2012 to 1.4% (1 in 71) in 2022.

# One-year loss of access patency after HD initiation with a graft: 2012-2022

- Primary patency = 43.8%
- 1º Assisted Patency = 64.3%
- Secondary patency = 95.9%

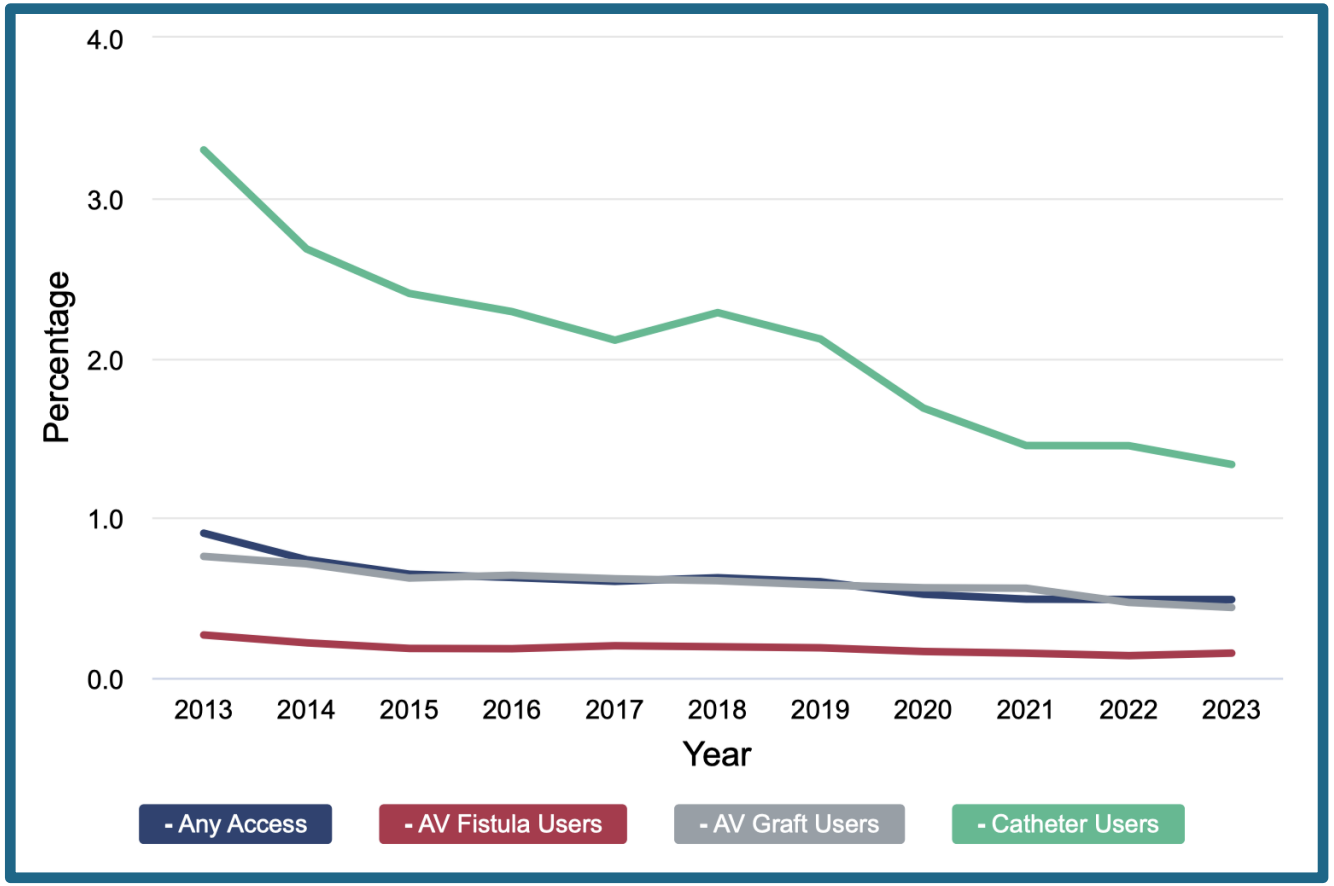


# Tunneled catheter placement in the year after HD initiation with a fistula or graft: 2012-2022



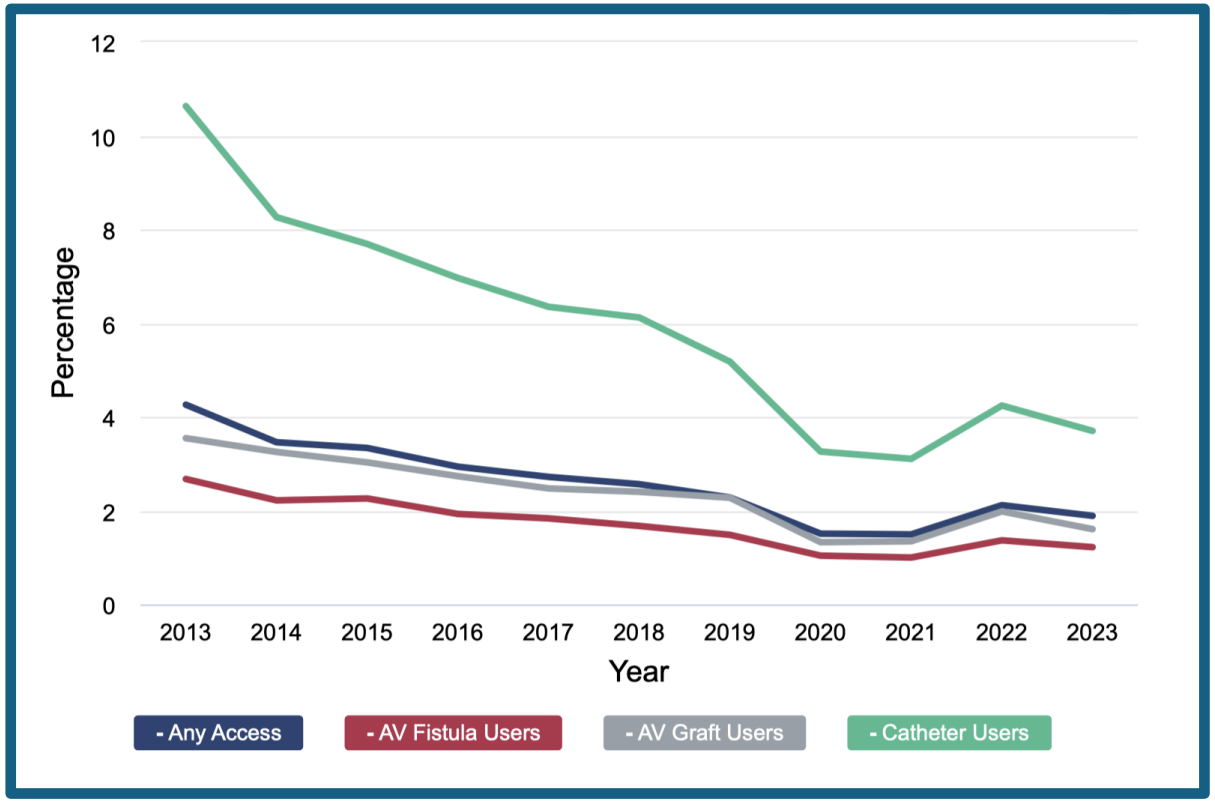
# Percentage of adults on HD hospitalized with a vascular access-related infection in 2013-2023

- The percentage of adults hospitalized with all types of vascular access-related infections decreased from 2013 to 2023.
- The gap in between those with a catheter and those with other types of a permanent access narrowed substantially.



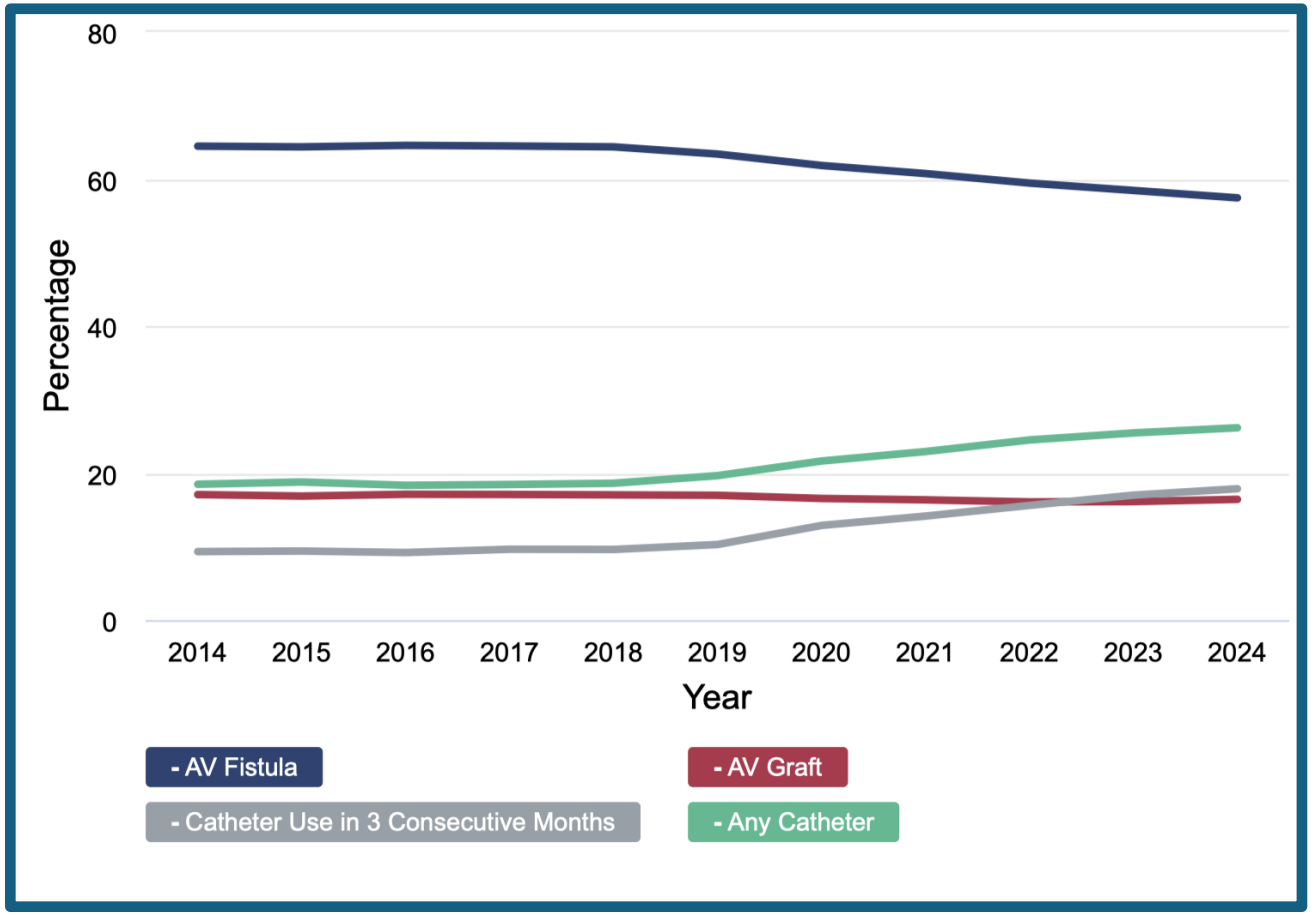
# Percentage of adults on HD receiving IV antibiotics in an outpatient dialysis facility in July

- The percentage of adults on HD who received outpatient IV antibiotics related to kidney failure at a dialysis facility decreased by more than half among users of permanent accesses and by nearly two-thirds among users of catheters.
- Use of IV antibiotics decreased across all strata of age, sex, and race/ethnicity over the decade.



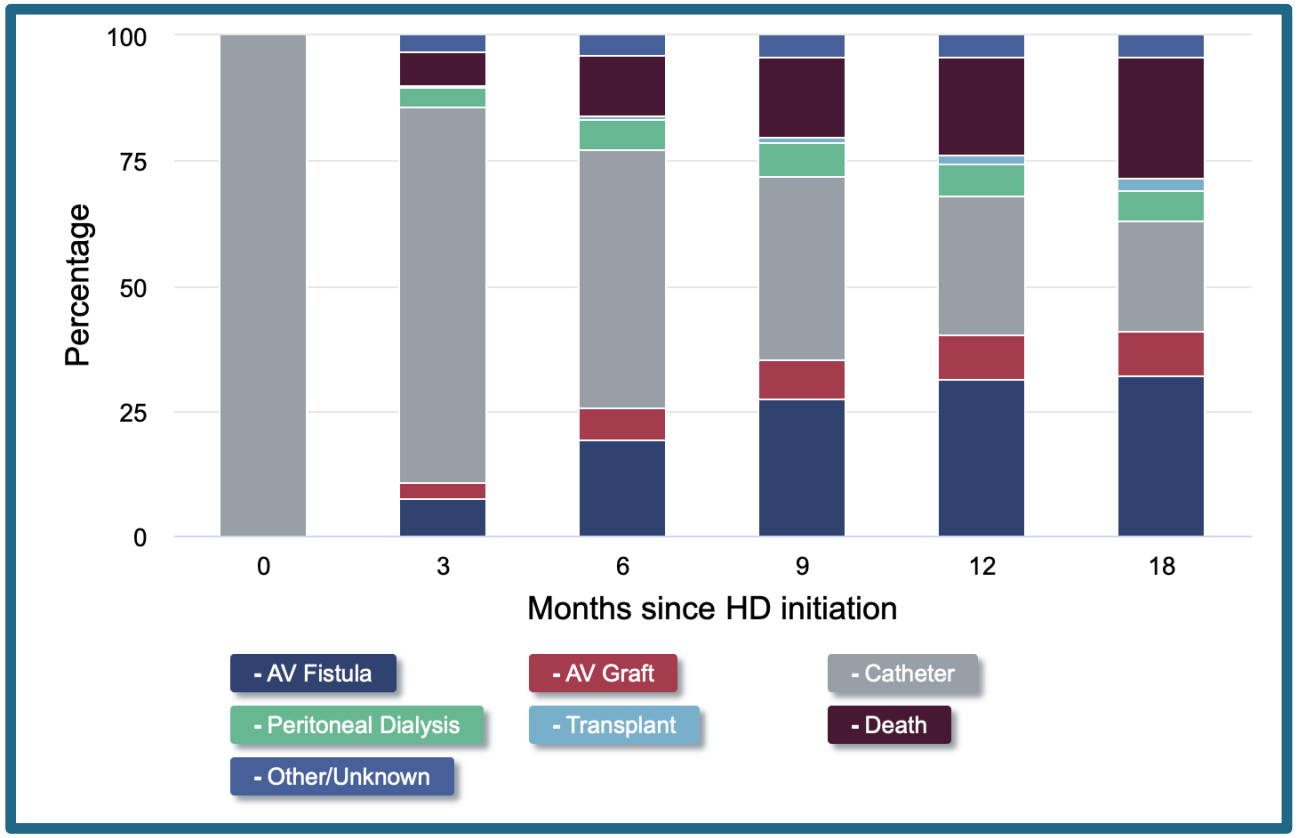
# Vascular access use among adults receiving HD: 2014-2024

- After a period of stability from 2014 to 2018, catheter use among adults receiving HD steadily increased from 19% in 2018 to 26% in 2024.
- A similar trend was present in people with long-term (≥3 month) use of a catheter.
- AV fistula use has steadily decreased from 64% in 2018 to 57% in 2024.
- Use of AV grafts was relatively unchanged.



# Change in vascular access & other outcomes over 18 months following HD initiation with a CVC in 2023

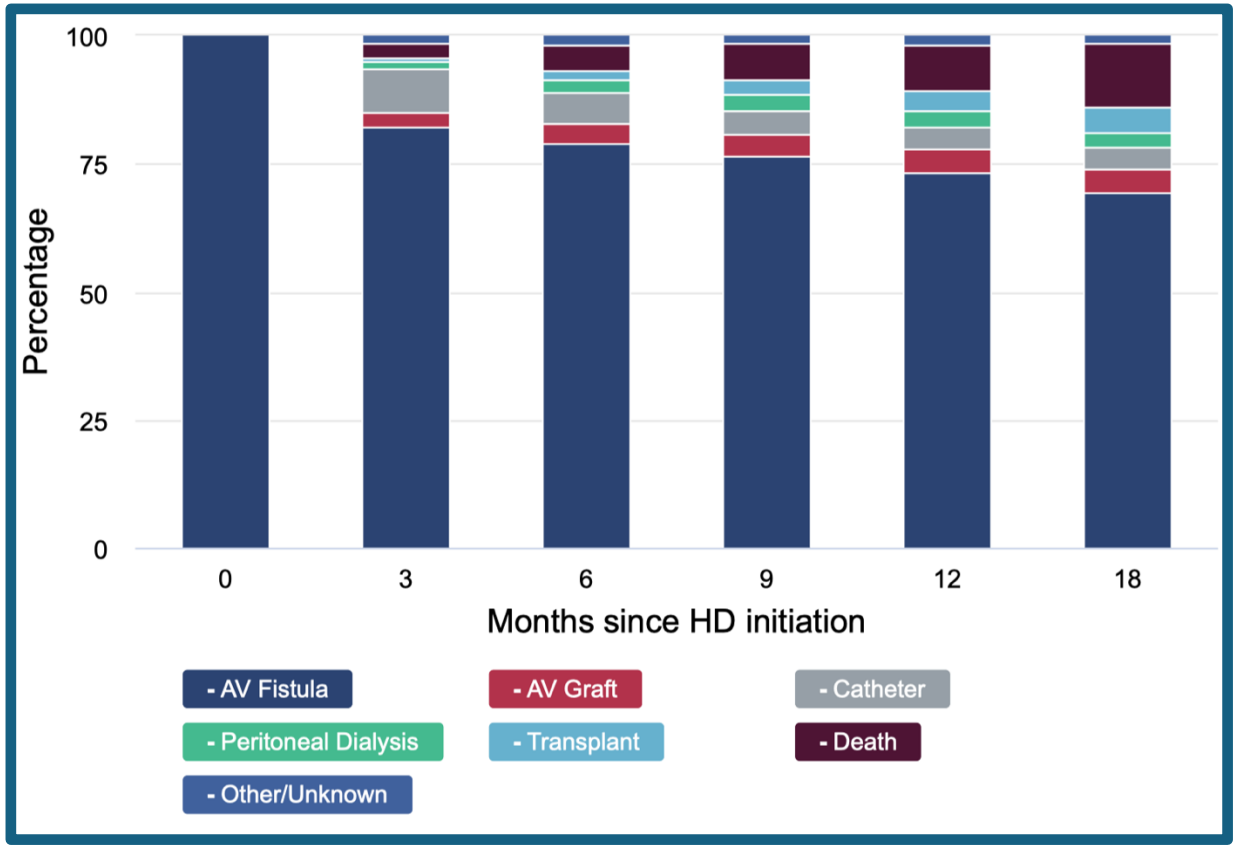
- 24.4% of patients were dead
- 63% were alive and on HD
- 2/3$^{rds}$ of those had AV access
- 1/3$^{rd}$ were catheter dependent
- 2.5% kidney transplant rate




**How much better do patients with an AVF fare??**

# Change in vascular access & other outcomes over 18 months following HD initiation with a AVF in 2023

- By 18 months after initiating HD with an AVF in 2023, 12.2% had died,
- 78.1% remained on HD, with nearly 95% of those using a permanent access.
- Only 4.1% of individuals on HD were using a catheter
- 5.0% had received a kidney transplant
- 3.1% converted to PD.




Patients with AVFs fare better!

# Key Conclusions: Prevalent Patients

- The loss of secondary patency 12 months after initiating dialysis has decreased to just :
  - 1.4% among those starting with an AV fistula, and
  - 4.1% in those starting with an AV graft
- The vascular access infection “hospitalization gap” between individuals with a catheter and those with a permanent access (AV fistula or AV graft) has narrowed substantially over recent years
- Both hospitalization rates and in center antibiotic usage for all types of access related infections have declined significantly

# Key Conclusions: Prevalent Patients

- Individuals who initiate HD with an AV fistula were more likely to survive and to receive a kidney transplant within 18 months of starting HD than those who initiated HD with a catheter
- We are doing substantially better for prevalent dialysis patients, achieving high rates of conversion to a permanent access for those starting out with CVC's, and improved vascular access maintenance for patients with AVFs and AVGs
- These improved outcomes for prevalent patients stands in stark contrast to the paradoxical lack of progress in getting more incident patients on to dialysis with a running blood access.

# Questions after the meeting ?

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