Healthcare-Associated Infections (HAIs) in Dialysis Dashboard, 2019-2023

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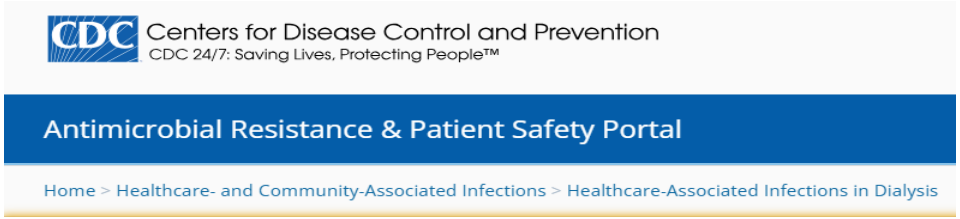
Understanding Healthcare-Associated Infections (HAIs) in Dialysis

- Over 500,000 patients are treated with maintenance hemodialysis in the United States.
- There are three main vascular access types:
  - Arteriovenous fistula
  - Arteriovenous graft
  - Central venous catheter (CVC)
- Hemodialysis patients are at high risk for infection often with antimicrobial-resistant bacteria.



Surveillance Focus Areas Supporting the HAI Dialysis Dashboard

- **Surveillance focus areas include:**
  - Bloodstream Infections (BSI)
  - Intravenous Antibiotic Starts (IVAS)
  - Signs of infection at the access site including pus, redness, or increased swelling (PRS)
- **These measures help inform infection prevention strategies and support the HAI Dashboard.**
- **Access the CDC Antimicrobial Resistance & Patient Safety Portal (ARPSP) dashboard to learn more.**

Context & Resources for Exploring the HAI Dashboard

HAIs in Dialysis Hero Cards

- **When users first open the HAI Dialysis Dashboard, they'll see these national summary metrics, also known as "hero cards."**
- **These cards highlight the key infection focus areas.**

Mapping HAIs in Dialysis by Location

GEOGRAPHIC LOCATION

DIALYSIS DATA BY EVENT TYPE AND STATE

EVENT TYPE

BSI | IVAS | PRS

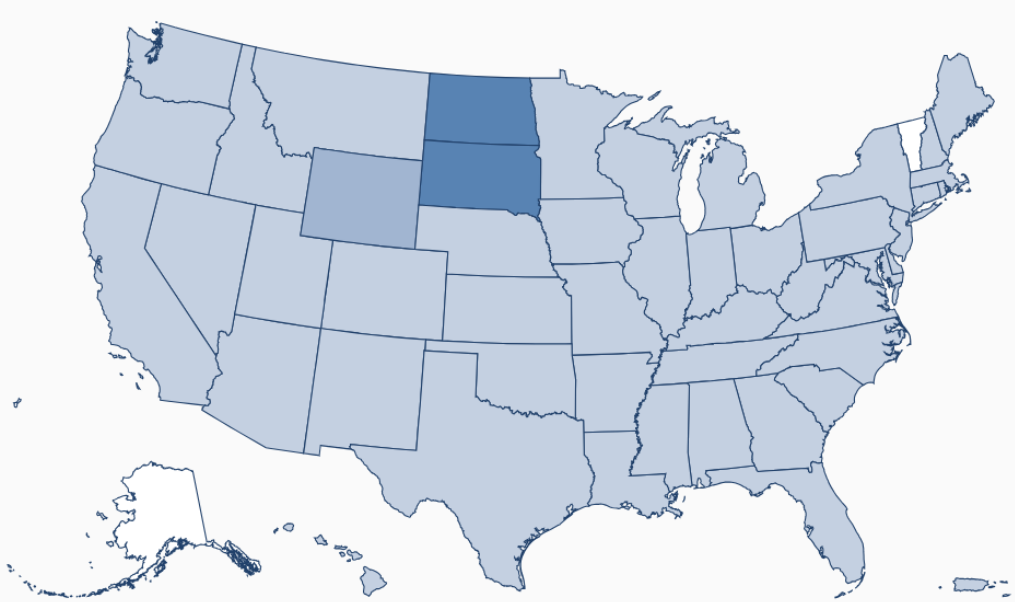
YEAR

2023

The data in this graph are limited to information that was reported by dialysis facilities to NHSN for the calendar year 2023. Data displayed are SIRs for BSIs and crude rates for IVAS and PRS by state. Data are not displayed if data are insufficient to produce an SIR or rate.

DIALYSIS DATA BY BSI AND STATE IN 2023

VIEW DATA | SAVE IMAGE | SHARE



BSI SIR Value

Color-Coded Map of Event Type Crude Rate by U.S. State

GEOGRAPHIC LOCATION

DIALYSIS DATA BY EVENT TYPE AND STATE

EVENT TYPE

BSI | IVAS | **PRS**

YEAR

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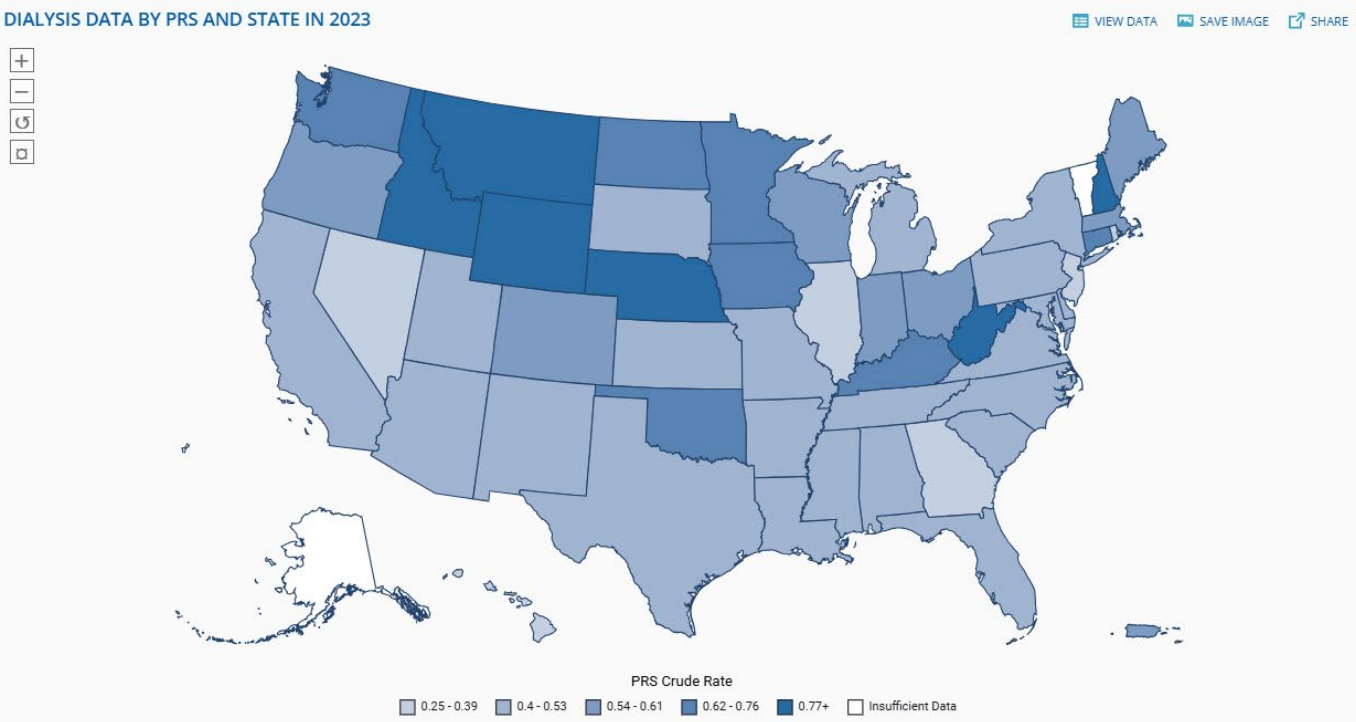

Dialysis HAIs: Filter by Event Type and Data Export Options

GEOGRAPHIC LOCATION

DIALYSIS DATA BY EVENT TYPE AND STATE

EVENT TYPE

BSI | IVAS | PRS

YEAR

2023

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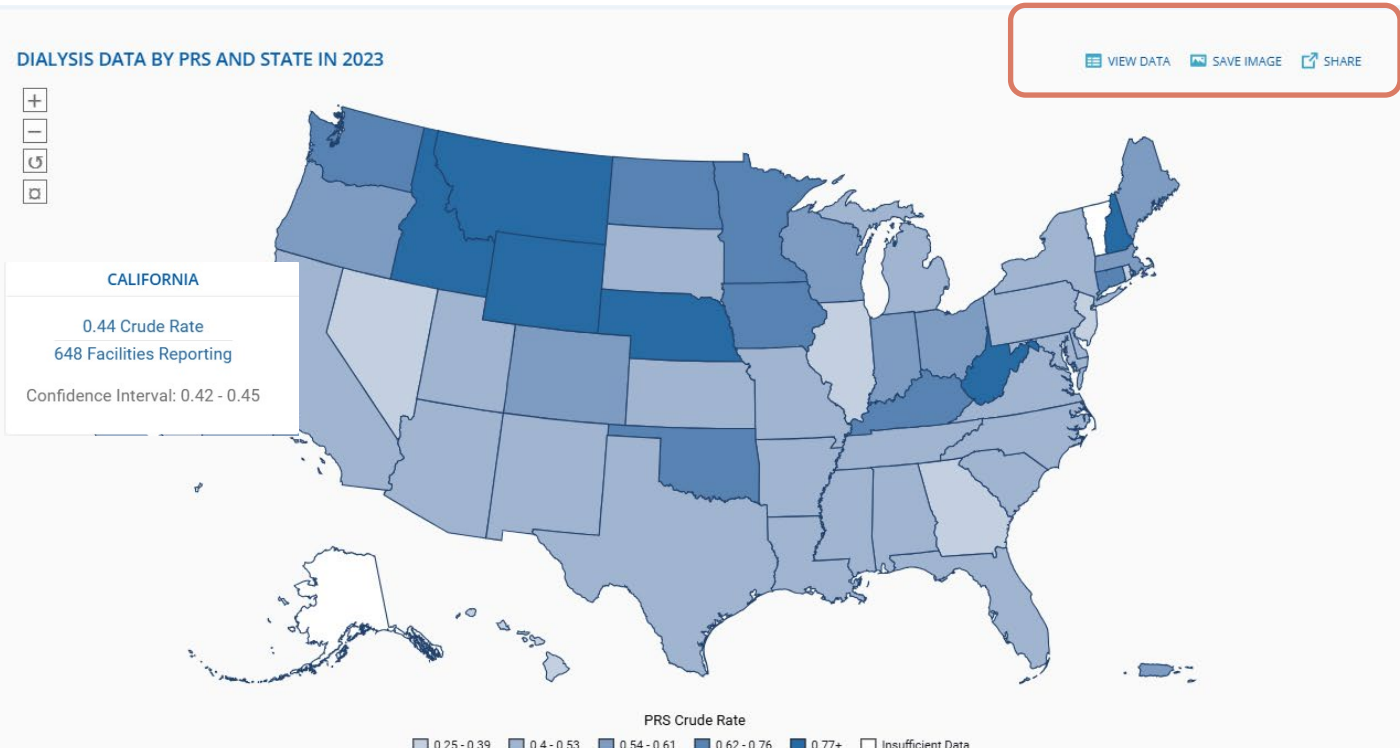
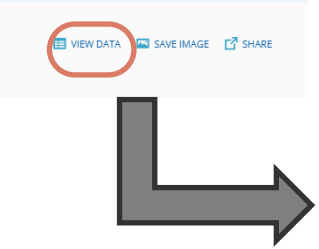
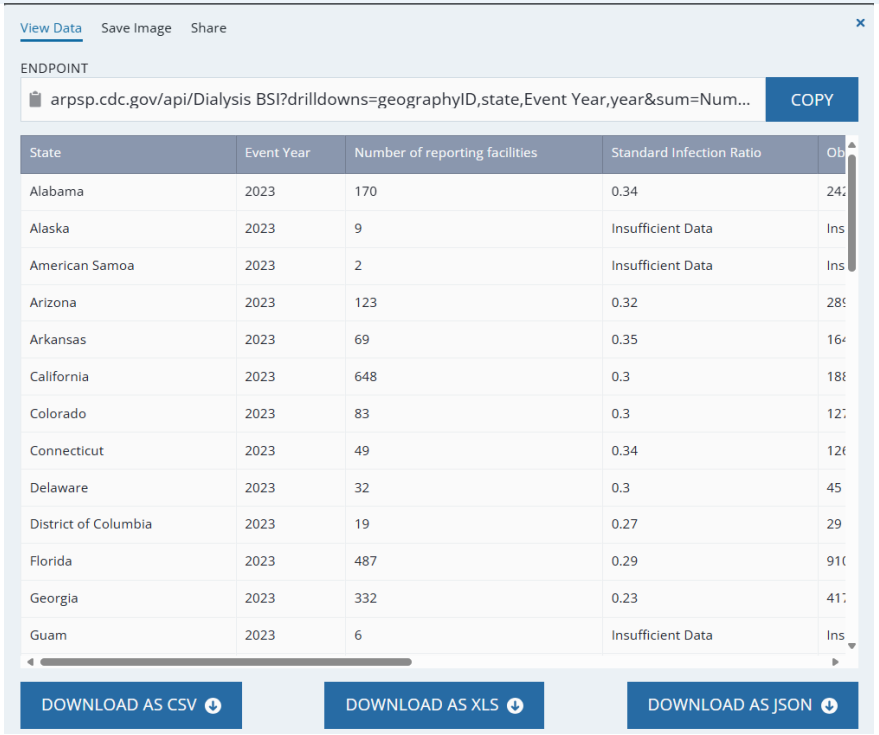
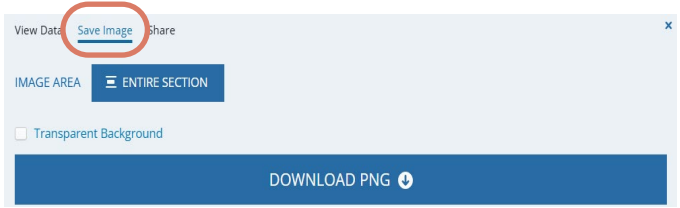


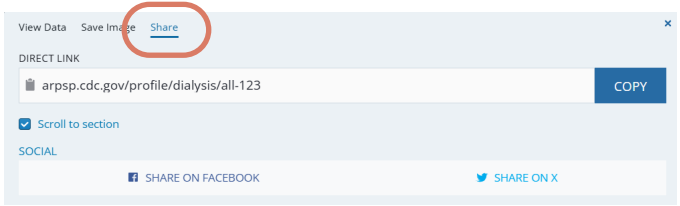
Steps to View, Download, and Share Dialysis HAI Data

GEOGRAPHIC LOCATION

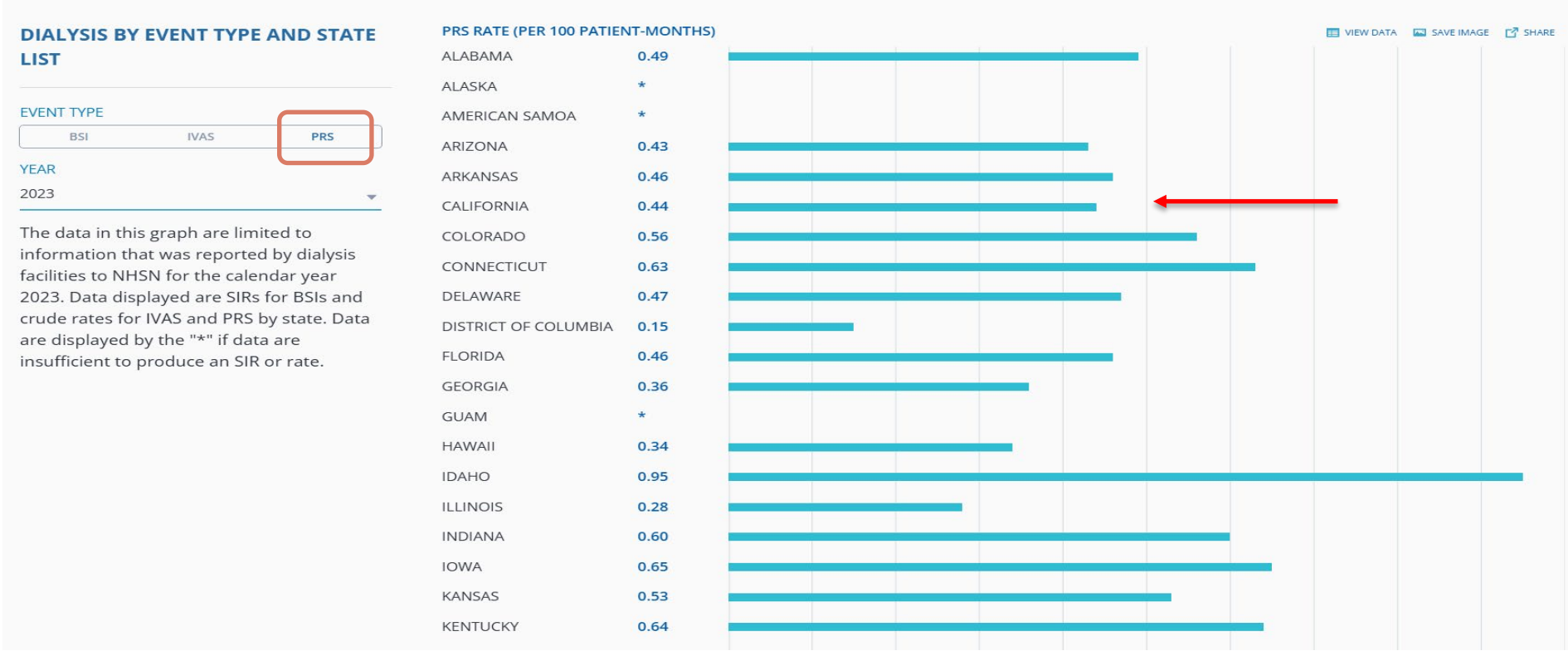








State-by-State View of Event Type in Dialysis Patients



Crude Infection Rates for Each HAI Type by Access Type and Year

DIALYSIS EVENT DATA BY ACCESS TYPE

EVENT TYPE

Overall

YEAR

2019

This table shows the crude rates for each HAI type - BSI, IVAS, and PRS - by each access type for 2019. Access types include the following: Central Venous Catheter (CVC) access, arteriovenous fistula access, arteriovenous graft access, or other access types such as catheter-graft hybrid devices.

Access Type	Events	Denominator	Crude Rate (per 100)	95% CI Lower	95% CI Upper
All BSI	22,063	5,321,309	0.41	0.41	0.42
CVC	13,604	1,126,566	1.21	1.19	1.23
Fistula	5,454	3,253,646	0.17	0.16	0.17
Graft	2,968	927,645	0.32	0.31	0.33
Other access	37	13,452	0.28	0.2	0.38
All IVAS	124,895	5,321,309	2.35	2.33	2.36
CVC	58,355	1,126,566	5.18	5.14	5.22
Fistula	46,885	3,253,646	1.44	1.43	1.45
Graft	18,005	927,645	1.94	1.91	1.97
Other access	131	13,452	0.97	0.82	1.15
All PRS	26,432	5,321,309	0.5	0.49	0.5
CVC	17,811	1,126,566	1.58	1.56	1.6
Fistula	5,619	3,253,646	0.17	0.17	0.18
Graft	2,986	927,645	0.32	0.31	0.33
Other access	16	13,452	0.12	0.07	0.19

Crude Infection Rates for Each HAI Type by Access Type and Year Continued…

DIALYSIS EVENT DATA BY ACCESS TYPE

EVENT TYPE

Overall

YEAR

2023

This table shows the crude rates for each HAI type - BSI, IVAS, and PRS - by each access type for 2023. Access types include the following: Central Venous Catheter (CVC) access, arteriovenous fistula access, arteriovenous graft access, or other access types such as catheter-graft hybrid devices.

Access Type	Events	Denominator	Crude Rate (per 100)	95% CI Lower	95% CI Upper
All BSI	13,877	5,069,759	0.27	0.27	0.28
CVC	9,720	1,618,379	0.6	0.59	0.61
Fistula	2,708	2,652,483	0.1	0.1	0.11
Graft	1,413	787,786	0.18	0.17	0.19
Other access	36	11,111	0.32	0.23	0.44
All IVAS	91,360	5,069,759	1.8	1.79	1.81
CVC	53,555	1,618,379	3.31	3.28	3.34
Fistula	26,650	2,652,483	1.01	0.99	1.02
Graft	10,238	787,786	1.3	1.27	1.32
Other access	226	11,111	2.03	1.78	2.31
All PRS	23,764	5,069,759	0.47	0.46	0.47
CVC	17,986	1,618,379	1.11	1.09	1.13
Fistula	3,974	2,652,483	0.15	0.14	0.15
Graft	1,775	787,786	0.23	0.21	0.24
Other access	29	11,111	0.26	0.18	0.37

Resources

- **Guide to the NHSN Dialysis Event Surveillance Bloodstream Infection (BSI) Standardized Infection Ratio (SIR) Measure**
- **SIR Guide**
  - NHSN SIR Guide (in depth guide)
  - Guide to the NHSN Dialysis Event Surveillance BSI SIR Measure (quick reference guide)
- **Dialysis Surveillance Reports**
  - National Healthcare Safety Network (NHSN) Dialysis Event Surveillance Report for 2014
  - A Six-Year Follow-Up of Bloodstream Infections in Hemodialysis Facilities in the United States, National Healthcare Safety Network, 2020 - PubMed
- **Dialysis Component-NHSN-CDC**

Resources Continued…

- Submit a ticket to Service Now
- **Contact NHSN**
  - NHSN@cdc.gov
- **John Keenan**
  - TNY5@cdc.gov

Thank You

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov