



## MISSISSIPPI STATE DEPARTMENT OF HEALTH

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### Dialysis Events in Mississippi, 2014

Dialysis events include intravenous (IV) antimicrobial administration, positive blood cultures, and vascular access site infection (e.g., pus, redness, and swelling at the vascular site) occurring at outpatient hemodialysis centers. Dialysis is used when the kidneys and liver can no longer naturally filter blood of toxins and unwanted nutrients. For patients with end-stage renal disease (ESRD), hemodialysis is used to completely remove the patient's blood from the body, filter and clean it externally, and return the blood back to the patient. Vascular access can be achieved in multiple ways to perform dialysis. An arteriovenous (AV) fistula is a surgically achieved connection between a major artery and vein. This permanent access device is ideal for hemodialysis since it carries the lowest risk of infection. Some patients have a buttonhole with their AV fistulas where the same hole is used to access the access device each time hemodialysis is performed. This allows for a duller needle to be used in the process, providing less discomfort to the patient. An AV graft is a tubing placed between a major artery and vein to allow blood flow between the two vessels and is used as a semi-permanent vascular access device. A tunneled central line is a catheter that is placed in a major artery or vessel and travels under the skin from this artery or vessel to its access point outside of the skin. A nontunneled central line is a catheter that is placed in a major artery or vessel, whose access point is directly at the point of insertion to the artery or vein. Tunneling helps secure the central line and reduce infection, which allows the line to be in place longer; therefore, a tunneled central line is preferable to a nontunneled. Since the blood is completely removed from the body, hemodialysis leaves the patient extremely vulnerable to infection. Patients are also susceptible to infection because of their frequent use of dialysis (e.g., usually 2 to 3 times per week) and the continuous use of vascular access associated with treatment. Starting 2014, CMS required outpatient hemodialysis centers to report a full twelve months' work of data.

#### *Positive Blood Cultures (BC):*

Number of Facilities that Reported at Least One Dialysis Event: 71

Number of Positive Blood Cultures: 389

Infection Rate: 0.58 positive blood cultures per 100 patient months

#### *Local Access Site Infections (LASI):*

Number of Facilities that Reported at Least One Dialysis Event: 71

Number of Local Access Site Infections: 384

Infection Rate: 0.57 infections per 100 patient months

Positive BC and LASI Rates by Access Device Type, Outpatient Hemodialysis Centers, Mississippi, 2014

Access Device Type	Positive BC Count	Percent of Positive BC	Positive BC Rate (per 100 patient months)	LASI Count	Percent of LASI	LASI Rate (per 100 patient months)
Fistula	101	26%	0.24	121	32%	0.29
Buttonhole Fistula	12	3%	0.43	24	6%	0.86
Graft	41	11%	0.31	51	13%	0.39
Tunneled CL	241	62%	2.22	202	53%	1.86
Nontunneled CL	4	1%	1.17	4	1%	1.17
Other Access	2	1%	1.27	6	2%	3.82
Total	389	100%	0.58	384	100%	0.57

For more information on facility reporting of dialysis events: <http://www.cdc.gov/nhsn/dialysis/index.html>