DIALYSIS RELATED-INFECTION OVERVIEW

BACKGROUND

According to the National Institute of Diabetes and Digestive and Kidney Diseases 2010 figures, more than 20 million people aged 20 and older have chronic kidney disease in the United States. In 2009, more than 871,000 patients in the United States received chronic dialysis treatment. [8]

Surveillance for dialysis related infections in Colorado occurs within outpatient dialysis centers only and excludes peritoneal and home dialysis. The outpatient facilities monitored may be dedicated, stand-alone facilities, hospital-based or affiliated units that primarily serve this patient population. The reporting of dialysis related infections began in March 2010, and currently there are 71 dialysis centers reporting to NHSN; 70 submitted data to NHSN in the last reporting period.

Statewide, Colorado's ARB rates have been better than the national rate for the last three reporting years.

Dialysis centers in Colorado monitor patients for any of three specific events that must be reported: 1) an outpatient start of an intravenous antibiotic, 2) a positive blood culture, or 3) pus, redness or increased swelling at the vascular access site. This report depicts counts and rates of vascular access infections for each dialysis center and includes two types of dialysis related infections: local access infections (LAI) and access-related blood stream infections (ARB). An LAI is defined as the presence of pus, redness or swelling of the vascular access site without the presence of an ARB. An ARB, which poses more serious health implications and requires higher levels of care, is determined by the presence of a microorganism identified in a blood culture and the source of infection is reported as the vascular access site. Although an LAI is not as severe as an ARB, antibiotics typically are given in either case.

Each table below lists the dialysis center's name, city, number of dialysis patients, numbers and rates of ARB and LAI, and for ARB only, comparisons to the national average. Currently, no national averages have been established for LAI. The infection rate used is the number of infections per 100 patient months. The three categories that indicate how a Colorado dialysis center's infection rates compare to national infection rates are:

1. Statistically fewer (**better**) infections than expected based on national infection rates;
2. Statistically similar (**same)** infections as expected based on the national infection rates; or
3. Statistically more (**worse**) infections than expected based on national infection rates.

RESULTS

Table 21 and 22 shows the number and rates of ARB and LAI for each DTC in Colorado. The reporting period is Aug. 1, 2011 through July 31, 2013.

Seventy dialysis treatment centers submitted DRI data into NHSN this past year. Six reported zero ARB infections; four centers had ARB rates better than the national rate and one had rates that were worse. Table 7 shows statewide, Colorado's ARB rates have been better than the national rate for the last three reporting years. The facility-specific LAI counts and rates presented in Table 22 below show

6 facilities with zero LAI; however, since no national rate for LAI has been established, comparisons are not yet available.

TABLE 22: **Dialysis Local Access Infections,** Aug. 1, 2011 – July 31, 2013

Dialysis-Related Infections: Local Access Infections: August 1, 2011 – July 31, 2013							
Dialysis Center and City		August 2011- July 2012			August 2012- July 2013		
		# of Patients	Infection Count	Rate	# of Patients	Infection Count	Rate
AR Kidney Center Of Arvada	Arvada	930	23	2.5	1,059	16	1.5
AR Kidney Center Of Lafayette	Lafayette	547	0	0	543	1	0.2
AR Kidney Center Of Lakewood	Lakewood	7811	11	1.4	639	11	1.7
AR Kidney Center Of Longmont	Longmont	1,001	9	0.9	897	3	0.3
AR Kidney Center Westminster	Westminster	1,358	17	1.3	1,340	17	1.3
AR Kidney Center On Main	Longmont	74	2	2.7	341	2	0.6
AR Kidney Center Of Bear Creek	Lakewood	244	8	3.3	310	6	1.9
AR Thornton Kidney Center	Thornton	202	3	1.5	435	2	0.5
Children's Hospital Colorado	Aurora	99	1	1.0	194	0	0
Davita Alamosa Dialysis	Alamosa	541	2	0.4	675	11	1.6
Davita Arvada Dialysis	Arvada	366	1	0.3	376	8	2.1
Davita Aurora Dialysis	Aurora	1,478	5	0.3	1,551	14	0.9
Davita Belcaro Dialysis	Denver	698	4	0.6	646	16	2.5
Davita Black Canyon Dialysis	Montrose	191	1	0.5	260	6	2.3
Davita Boulder Dialysis	Boulder	280	1	0.4	280	4	1.4
Davita Brighton Dialysis	Brighton	562	0	0	521	10	1.9
Davita Commerce City Dialysis	Commerce City	627	4	0.6	627	8	1.3
Davita Cortez Dialysis	Cortez	801	3	0.4	695	5	0.7
Davita Denver Dialysis	Denver	825	7	0.8	817	29	3.5
Davita Durango Dialysis	Durango	342	6	1.8	368	15	4.1
Davita East Aurora Dialysis	Aurora	1,280	13	1.0	1,149	18	1.6
Davita Englewood Dialysis	Englewood	590	0	0	539	11	2.0
Davita Fountain Dialysis	Fountain	407	3	0.7	431	5	1.2
Davita Grand Junction	Grand Junction	715	14	2.0	745	15	2.0
Davita Lakewood Crossing	Lakewood	1,225	11	0.9	1,040	21	2.0
Davita Lakewood Dialysis	Lakewood	1,051	8	0.8	1,024	24	2.3
Davita Littleton Dialysis	Littleton	883	3	0.3	718	9	1.3
Davita Lone tree-Skyridge	Lone tree	471	3	0.6	354	1	0.3
Davita Longmont Dialysis	Longmont	314	7	2.2	256	4	1.6
Davita Lowry Dialysis	Lowry	1,066	1	0.1	1,023	11	1.1
Davita Mesa County Dialysis	Grand Junction	225	0	0	303	6	2.0
Davita North Colorado Springs Dialysis	Colorado Springs	140	3	2.1	142	0	0
Davita North Metro Dialysis	Westminster	400	4	1.0	383	7	1.8
Davita Northeastern Colorado Dialysis	Sterling	368	0	0	412	7	1.7
DaVita Parker Dialysis	Parker	325	0	0	377	13	3.4
Davita Pikes Peak Dialysis	Colorado Springs	1,022	6	0.6	1,004	10	1.0
Davita Printers Place Dialysis	Colorado Springs	196	1	0.5	195	2	1.0

Dialysis-Related Infections: Local Access Infections: August 1, 2011 – July 31, 2013							
Dialysis Center and City		August 2011- July 2012			August 2012- July 2013		
		# of Patients	Infection Count	Rate	# of Patients	Infection Count	Rate
Davita Red Hawk Dialysis	Castle Rock	8	***	***	77	1	1.3
Davita Sable Dialysis	Aurora	Not yet operating			418	9	2.2
Davita South Denver Dialysis	Denver	746	2	0.3	618	11	1.8
Davita Southwest Denver Dialysis	Denver	84	2	2.4	270	6	2.2
Davita Thornton Dialysis	Thornton	982	5	0.5	824	9	1.1
DaVita Westminster Dialysis	Westminster	700	2	0.3	531	11	2.1
Denver Women's Correctional Center	Denver	285	0	0	120	Events Not Reported	
Dialysis Clinic Inc. Grand Junction	Grand Junction	175	2	1.1	252	1	0.4
Dialysis Clinic Inc. Montrose	Montrose	381	1	0.3	399	7	1.8
FMC Canon City	Canon City	409	1	0.2	430	2	0.5
FMC Denver Central Dialysis	Denver	1,246	34	2.7	1,156	18	1.6
FMC East Denver	Aurora	1,241	16	1.3	1,200	7	0.6
FMC Fort Collins Dialysis	Fort Collins	973	21	2.2	893	17	1.9
FMC Greeley	Greeley	1,365	3	0.2	1,405	12	0.9
FMC La Junta	La Junta	427	1	0.2	453	1	0.2
FMC Lamar	Lamar	271	6	2.2	280	0	0
FMC Loveland Dialysis	Loveland	719	16	2.2	653	10	1.5
FMC Pavilion	Denver	Not yet operating			184	1	0.1
FMC Pueblo	Pueblo	734	5	0.7	709	11	1.6
FMC Pueblo South	Pueblo	923	12	1.3	1,012	7	0.7
FMC Pueblo West Dialysis	Pueblo	290	1	0.3	277	2	0.7
FMC Rocky Mountain Dialysis	Denver	1,085	26	2.4	1,010	11	1.1
FMC Stapleton Dialysis	Denver	527	3	0.6	522	3	0.6
FMC Walsenburg	Walsenburg	147	0	0	158	2	1.3
FMC West Hampden	Englewood	Not yet operating			26	***	***
Liberty Dialysis - Castle Rock	Castle Rock	132	0	0	135	2	1.5
Liberty Dialysis Colorado Springs Central	Colorado Springs	1,132	2	0.2	1,120	15	1.3
Liberty Dialysis Colorado Springs North	Colorado Springs	460	1	0.2	457	0	0
Liberty Dialysis Colorado Springs South	Colorado Springs	570	0	0	677	0	0
Liberty Dialysis Pueblo	Pueblo	536	4	0.7	500	5	1
Reliant Renal Care - Colorado Springs	Colorado Springs	170	5	2.9	60	0	0
Reliant Renal Care - Trinidad	Trinidad	156	0	0	64	1	1.6
University Of Colorado Hospital Chronic Dialysis Unit	Denver	389	1	0.3	299	1	0.3

Note: AR=American Renal, FMC=Fresenius Medical Care. Dialysis infection rates are per 100 patient months. National comparison based on data collected and reported by NHSN from Jan-Dec 2006.