Dialysis Event Protocol

Introduction

In 2011, more than 395,000 patients were treated with maintenance hemodialysis in the United States.[13] Hemodialysis patients require a vascular access, which can be a catheter, or a graft or an enlarged blood vessel that can be punctured to remove and replace blood. Bloodstream infections and localized infections of the vascular access site cause substantial morbidity and mortality in hemodialysis patients. Hemodialysis vascular access types, in order of increasing risk of infection, include arteriovenous fistulas created from the patient's own blood vessels; arteriovenous grafts typically constructed from synthetic materials; tunneled central lines; and nontunneled central lines. Other access devices, such as catheter-graft hybrid devices, also exist. Because of frequent hospitalizations and receipt of antimicrobial drugs, hemodialysis patients are also at high risk for infection with antimicrobial-resistant bacteria. Measuring and tracking rates of infection and utilizing this information is an important part of prevention.

Infection prevention information is located at http://www.cdc.gov/dialysis/

Dialysis Event Surveillance

Overview: Each month, facilities report the number of hemodialysis outpatients who were dialyzed in the facility on the first two working days of the month, using the *Denominators for Outpatient Dialysis* form. This count is used to estimate the number of patient-months that there is risk of healthcare-associated infection. At the facility, throughout the entire month, any and all outpatients who receive maintenance hemodialysis at the facility are monitored for three National Healthcare Safety Network (NHSN)-defined dialysis events, which include IV antimicrobial starts, positive blood cultures, and evidence of local access site infection. Facilities use a *Dialysis Event* form to report the details of each dialysis event that occurred among these patients. Before data can be reported, facilities must indicate that they are reporting according to protocol by saving a *Patient Safety Monthly Reporting Plan.* Completion of an *Outpatient Dialysis Center Practices Survey* is required annually.

Setting: Surveillance occurs in outpatient hemodialysis centers. These centers may be attached to or affiliated with a hospital, but should serve hemodialysis outpatients. If other patients (e.g., inpatients, peritoneal dialysis patients) are present, exclude them from Dialysis Event numerator and denominator reporting.

Population: Hemodialysis outpatients.

- Include transient patients
- Include peritoneal dialysis patients or transplant patients undergoing temporary hemodialysis

[13] *U.S. Renal Data System, USRDS 2013 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2013.* (http://www.usrds.org/adr.htm)

Requirements: Participating facilities are required to report data according to this protocol, using the NHSN definitions described herein, to ensure data are uniformly reported across participating facilities. Report available data to NHSN within 30 days to 60 days of the end of the month for which they were collected. If additional data become available after that period, users are expected to report the additional information retrospectively to ensure NHSN data are complete and accurate. This may involve reporting additional dialysis events and/or editing existing event records.

Event Definitions and Key Terms

Dialysis Event: Three types of dialysis events are reported by users: IV antimicrobial start; positive blood culture; and pus, redness, or increased swelling at the vascular access site. The following measures are also generated from the reported data: bloodstream infection (BSI), local access site infection (LASI), access-related bloodstream infection (ARB), and vascular access infection (VAI).

21 day rule: An event reporting rule which reduces reporting of events that are likely to be related to the same patient problem. The rule is that 21 or more days must exist between two dialysis events of the *same* type for the second occurrence to be reported as a separate dialysis event. If fewer than 21 days have passed since the last reported event of the same type, the subsequent event of the same type is NOT considered a new dialysis event and therefore, it is not reported. The 21 day rule applies across calendar months. Refer to each event definition for instructions on applying the 21 day rule for each specific event type.

IV antimicrobial start: Report **all** starts of intravenous (IV) antibiotics or antifungals administered in an outpatient setting, regardless of the reason for administration (i.e., include IV antimicrobial starts unrelated to vascular access problems) and regardless of the duration of treatment. A start is defined as a single outpatient dose or first outpatient dose of a course. Report all IV antibiotic starts, not just vancomycin. Do not report IV antiviral starts. Report outpatient starts that are continuations of inpatient antimicrobial treatment.

- 21 day rule: There must be 21 or more days from the **end** of one IV antimicrobial course to the **beginning** of a second IV antimicrobial start for two starts to be reported as separate dialysis events, even if different antimicrobials are used. If IV antimicrobials are stopped for fewer than 21 days and then restarted, the second start is NOT considered a new dialysis event and therefore, is not reported.

- For outpatient IV antimicrobial starts that are continuations of inpatient antimicrobial treatment, consider the start day to be the first day of outpatient administration.

- Inter-facility patient transfers: If a patient at a dialysis facility has an IV antimicrobial start and then transfers to another facility (as a transient or permanent patient) where the antimicrobial is continued, the second facility would report the IV antimicrobial start in their facility as well.

Positive blood culture: Report **all** positive blood cultures from specimens collected as an outpatient or collected within one calendar day after a hospital admission. One calendar day after hospital admission includes positive blood cultures collected on the day of or the day following admission to the hospital. Positive blood cultures meeting the criteria above should be reported regardless of whether or not a true infection is suspected or whether the infection is thought to be related to hemodialysis.

- 21 day rule: There must be 21 or more days between positive blood cultures for each positive blood culture to be considered a separate dialysis event, even if organisms are different. If positive blood cultures occur less than 21 days apart, the second positive blood culture is NOT considered a new dialysis event and therefore, is not reported. However, if different organisms grow from these subsequent positive blood cultures, add the new organisms to the reported event.

- Suspected source of the positive blood culture: indicating one of four suspected sources of a positive blood culture is required.

    - Vascular access: Choose "Vascular access" if there is objective evidence of vascular access infection and the vascular access is thought to be the source of the positive blood culture.

    - A source other than the vascular access: Choose "A source other than the vascular access" if either (a) or (b) is true:
        a) a culture from another site (e.g., infected leg wound, urine) shows the same organism found in the blood and the site is thought to be the source of the positive blood culture.
        b) there is clinical evidence of infection at another site which is thought to be the source of the positive blood culture, but the site was not sampled for culture.

    - Contamination: Choose "Contamination" if the organism isolated from the blood culture is thought by the physician, infection preventionist, or nurse manager to be a contaminant. Contamination is more likely if the organism is a common commensal and is isolated from only one of several blood cultures. Examples of common commensals include: diphtheroids [*Corynebacterium* spp., not *C. diphtheriae*]; *Bacillus* spp. [not *B. anthracis*]; *Propionibacterium* spp.; coagulase-negative staphylococci [including *S. epidermidis*]; viridans group streptococci; *Aerococcus* spp.; and *Micrococcus* spp.

    - Uncertain: Choose "Uncertain" only if there is insufficient evidence to decide among the three previous suspected source categories.

Pus, redness, or increased swelling at the vascular access site: Report each new outpatient episode where the patient has one or more symptoms of pus, greater than expected redness or greater than expected swelling at any vascular access site, regardless of whether the patient received treatment for infection. Pus is always reportable. Report redness or swelling if it is greater than expected and suspicious for infection. Indicate the vascular access site(s) where the symptom(s) occurred.

- 21 day rule: There must be 21 or more days between the **onset** of one episode and the **onset** of a second episode of pus, redness, or increased swelling at a vascular access site to be considered separate dialysis events. If an episode of pus, redness, or increased swelling at a vascular access site resolves and then recurs within 21 days of the first onset, the recurrence is NOT considered a new dialysis event and therefore, is not reported.

Measure Definitions

- Bloodstream infection (BSI): Any positive blood culture.
- Access-related bloodstream infection (ARB): Positive blood culture with the suspected source reported as the vascular access or uncertain.
- Local access site infection (LASI): Pus, redness, or increased swelling of the vascular access site and access-related bloodstream infection is not present.
- Vascular access infection (VAI): Either a local access site infection or an access-related bloodstream infection.

Vascular Access Types

Consider all vascular accesses for hemodialysis and all central venous catheters that are present at the time of the event in Dialysis Event reporting, even if they are not used for dialysis and even if they are abandoned/non-functional.

- Nontunneled central line: a central venous catheter that is fixed in place at the point of insertion and travels directly from the skin entry site to a vein and terminates close to the heart or one of the great vessels, typically intended for short term use.
- Tunneled central line: a central venous catheter that travels a distance under the skin from the point of insertion before entering a vein, and terminates at or close to the heart or one of the great vessels (e.g., Hickman® or Broviac® catheters[14]).
- Graft: a surgically created connection between an artery and a vein using implanted material (typically synthetic tubing) to provide a permanent vascular access for hemodialysis.
- Fistula: a surgically created direct connection between an artery and a vein to provide vascular access for hemodialysis.
    - Buttonhole: a cannulation technique where a blunt needle (cannula) is inserted into the fistula at the same location each time using an established track. Report the way in which a patient is primarily cannulated.

[14] Use of trade names and commercial sources is for identification only and does not imply endorsement.

- Other access device: includes catheter-graft hybrid vascular access devices, ports, and any other vascular access devices that do not meet the above definitions. Do not use this field to report vascular accesses that are grafts, central venous catheters or fistulas. Do not use this field to report peritoneal dialysis accesses.

    - Catheter-graft hybrid: a subcutaneous surgical implant with both a catheter and a graft component that provides blood flow directly from the target artery to the heart, bypassing the patient's central venous system (e.g., HeRO® vascular access device[15]).

REPORTING INSTRUCTIONS

NHSN forms and/or the definitions in this protocol should be used to collect required data. Each form has a corresponding table of instructions.

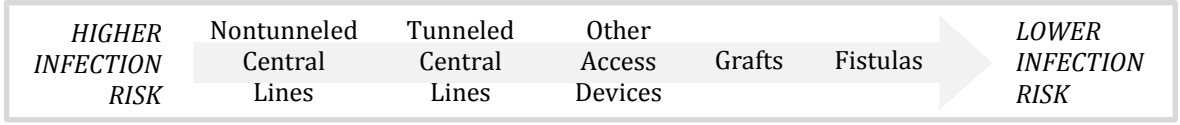
Complete a Survey Annually: Upon enrollment and annually thereafter, complete the *Outpatient Dialysis Center Practices Survey* (CDC 57.500). After enrollment, the data for the dialysis survey should be collected and reported in February.

Complete Patient Safety Monthly Reporting Plans: The *Patient Safety Monthly Reporting Plan* (CDC 57.106) is used by NHSN facilities to inform CDC that they are committed to following the NHSN surveillance protocol, in its entirety, for each data type specified on the plan. These data are referred to as "in-plan." A Monthly Reporting Plan must be completed before data can be entered into NHSN for that month.

To indicate the facility is reporting in accordance with this protocol, save a Monthly Reporting Plan with the "DE" checkbox selected for the 'outpatient hemodialysis clinic' location, under the Device-Associated section, for each month of participation in Dialysis Event surveillance.

Report Denominator Data Monthly: The denominators are counts of patients by vascular access type used to estimate the number of patient-months considered at risk for dialysis events. To report denominator data, each month, report the number of hemodialysis outpatients with each vascular access type who received hemodialysis at the center during the first two working days of the month on the *Denominators for Outpatient Dialysis* form (CDC 57.503).

Report all hemodialysis outpatients, including transient patients. Exclude non-hemodialysis patients and exclude inpatients. Report denominator data each month, regardless of whether any dialysis events occur. Count each patient only once; if the patient has multiple vascular accesses, record that patient once, reporting only their vascular access with the highest risk of infection (note: this might not be the vascular access currently in use for dialysis).



[15] Use of trade names and commercial sources is for identification only and does not imply endorsement.

See tables of instructions for an explanation of each field of the *Denominators for Outpatient Dialysis* form.

Working Days: The first two "working days" of the month should provide the opportunity to capture all regularly scheduled shifts and patients.

- For example, if a facility dialyzes patients 6 days a week, Monday through Saturday, and the first day of the month falls on a Sunday, then Monday and Tuesday would be the first two working days of the month for that facility.

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
1 Facility closed	2 Working day 1	3 Working day 2	4	5	6	7

- For facilities that provide nocturnal hemodialysis, working days should include nocturnal hemodialysis patients.

- Working days are shift/schedule dependent – the actual patient census is **not** a criterion for determining a working day.

- If the facility was closed the entire month, do not complete a denominator form. Instead, select "No NHSN Patient Safety Modules Followed this Month" on that month's *Monthly Reporting Plan*.

Report Numerator Data Monthly: The numerators are the number of dialysis events that occur during a defined time period. To report numerator data, complete one *Dialysis Event* form (CDC 57.502) per occurrence of event(s) among all patients who received hemodialysis at the facility during that month.

Any patient who receives outpatient hemodialysis treatment at your facility is monitored for dialysis events, even if they were not counted on the denominator form. Include transient patients at your facility who have a dialysis event. Complete a *Dialysis Event* form only if a hemodialysis outpatient has one or more of the following:

- IV antimicrobial start
- Positive blood culture
- Pus, redness or increased swelling at the vascular access site

See tables of instructions for an explanation of each field of the *Dialysis Event* form.

Multiple Dialysis Events: If multiple dialysis events occur together, **as a part of the same patient problem**, they should be reported on the same *Dialysis Event* form. For example, if a patient has a positive blood culture and begins IV antimicrobials, these two events would be recorded together on one form. When reporting multiple dialysis events together, the "date of event" is always the date that the first event occurred. Refer to dialysis event definitions for the 21 day rule. Do not report unrelated dialysis events on the same form.

Event Type	Date of Event Criterion
IV antimicrobial start	Date of first outpatient dose of an antimicrobial course
Positive blood culture	Date of specimen collection
Pus, redness or increased swelling at vascular access site	Date of onset
Combination	Earliest date of the three types

Report No Events: Each dialysis event type needs to be accounted for every month. Either the event type is reported on one or more *Dialysis Event* forms, or the "report no events" box for that event type must be checked on the *Denominators for Outpatient Dialysis* form to confirm no events of that type occurred during the month.

Data Analyses

Dialysis event rates are stratified by vascular access type and expressed per 100 patient-months. Rates are calculated by dividing the number of events by the number of patient-months and multiplying the result by 100. CDC calculates aggregate pooled mean rates for each event type by combining rates from all participating facilities. Facilities can compare their rates with the aggregate rates using NHSN analysis rate table or run chart output options. Facilities are strongly encouraged to analyze the data they report and provide regular feedback to staff about patient outcome event rates.

$$rate = \frac{Dialysis\ Events\ (numerator)}{Patient\text{-}Months\ (denominator)} \times 100$$

Reporting Resources

Data collection and reporting resources are available on the NHSN Dialysis Event website: http://www.cdc.gov/nhsn/dialysis/dialysis-event.html.

Please direct questions to the NHSN Helpdesk at nhsn@cdc.gov and include "dialysis" in the subject line.

Instructions for the Dialysis Event Form

(CDC 57.502)

Complete a dialysis event form for IV antimicrobial starts; positive blood cultures; and onsets of pus, redness or increased swelling at vascular access sites, according to definitions and reporting instructions in the Dialysis Event Protocol.

* = required field when reporting in-plan

Patient Data	
Data Fields	**Instructions for Completion**
Facility ID #	NHSN-assigned facility ID will be auto-entered by the computer.
Event ID #	Event ID# will be auto-entered by the computer.
*Patient ID #	**Required**. Enter the alphanumeric patient ID number. This is the patient identifier assigned by the healthcare facility and may consist of any combination of numbers and/or letters.
Social Security #	Optional. Enter the 9-digit numeric patient Social Security Number.
Secondary ID #	Optional. Enter the alphanumeric ID number assigned by the facility.
Medicare #	Optional. Enter the patient's Medicare number.
Patient Name	Optional. Enter last, first and middle name of the patient.
*Gender	**Required**. Select "Female," "Male," or "Other" to indicate the patient's gender.
*Date of Birth	**Required**. Enter the patient's date of birth (format: mm/dd/yyyy).
Ethnicity (specify)	Optional. Specify whether patient is Hispanic or Latino.
Race (specify)	Optional. Specify all of the following that identify the patient's race: American Indian/Alaska Native; Asian; Black or African American; Native Hawaiian/Other Pacific Islander; and White.

General Event Information	
*Event Type	**Required**. Select "DE – Dialysis Event".
*Date of Event	**Required**. Date (format: mm/dd/yyyy) depends on event type: • For IV antimicrobial starts, enter the date the outpatient IV antimicrobial administration was started. • For positive blood cultures, enter the date the blood specimen was collected, not the date the laboratory reported the result. • For pus, redness, or increased swelling at the vascular access site, enter the onset date. • If reporting more than one type of dialysis event, using the above criteria select the earliest event date.
*Location	**Required**. Enter the location code of the "outpatient hemodialysis clinic" that is collecting Dialysis Event information.
Was the patient admitted/readmitted to the dialysis facility on this dialysis event date?	Required. Select 'yes' if the dialysis event occurred on the same date the patient was admitted or readmitted to your facility (e.g., upon admission or immediately following a hospital discharge).

*Transient Patient	**Required.** Select "Yes" if this patient was temporarily admitted for treatment at your facility for a short time (fewer than 30 days or 13 treatments) due to vacation, emergency, or other short-term displacement. Select "No" if this patient is part of your regular patient census.

Risk Factors	
Data Fields	**Instructions for Completion**
*Vascular accesses	**Required**. Select all vascular accesses that the patient had present at the time of the dialysis event, even if they are not used for dialysis and even if they are abandoned/non-functional.
Fistula Buttonhole	Indicate if the patient has a surgically created direct connection between an artery and a vein for hemodialysis. Conditionally required for patients with fistulas. Select "yes" if the patient's fistula is primarily accessed via buttonhole cannulation technique (i.e., a procedure in which a blunt needed (cannula) is inserted into the fistula at the same location each time using an established track). Select "no" if the patient's fistula is primarily accessed by conventional or rope ladder method.
Graft	Indicate if the patient has a connection between an artery and a vein created with surgically implanted material (typically synthetic tubing) for hemodialysis.
Tunneled central line	Indicate if the patient has a central venous catheter that travels a distance under the skin from the point of insertion before entering a vein, and terminates at or close to the heart or one of the great vessels.
Nontunneled central line	Indicate if the patient has a central venous catheter that is fixed in place at the point of insertion and travels directly from the skin entry site to a vein and terminates close to the heart or one of the great vessels.
Other vascular access device Is this a catheter-graft hybrid?	Indicate if the patient has a hybrid vascular access device (e.g., HeRO® vascular access device[14]), port, or any other vascular access device that does not meet the above definitions. Do not use this field to report vascular accesses that are grafts, central venous catheters or fistulas. Do not use this field to report peritoneal dialysis accesses. Conditionally required for patients with an 'other access device.' Select 'yes' if the patient has a catheter-graft hybrid access device: a subcutaneous surgical implant with both a catheter and a graft component that provides blood flow directly from the target artery to the heart, bypassing the patient's central venous system (e.g., HeRO® vascular access device[4]). Select 'no' if the patient's other access device is not a catheter-graft hybrid.

[4] Use of trade names and commercial sources is for identification only and does not imply endorsement.

*Access Placement Date	**Required**. For each access type present, indicate the date (mm/yyyy) the access was placed or check the box if placement date is unknown. If the patient has more than one access of the same type (e.g., two grafts), indicate the access placement date of the access in use, or most recently in use, at the time of the event.
Vascular access comment	Optional. Use this field to add any additional information about the patient's vascular access(es) that would help you to interpret your surveillance data, such as recent surgical revisions, etc. CDC typically does not analyze these data.

Event Details	
Specify Dialysis Event	**Required**. Select all that apply:
IV antimicrobial start	Report **all** starts of intravenous (IV) antibiotics or antifungals administered in an outpatient setting, regardless of the reason for administration (i.e., include IV antimicrobial starts unrelated to vascular access problems) and regardless of the duration of treatment. Report all IV antibiotic starts, not just vancomycin. Do **not** report IV antiviral starts. Report outpatient starts that are continuations of inpatient antimicrobial treatment. A start is defined as a single outpatient dose or first outpatient dose of a course. 21 day rule: There must be 21 or more days from the **end** of one IV antimicrobial course to the **beginning** of a second IV antimicrobial start for two starts to be reported as separate dialysis events, even if different antimicrobials are used. If IV antimicrobials are stopped for fewer than 21 days and then restarted, the second start is NOT considered a new dialysis event and therefore is not reported. For outpatient IV antimicrobial starts that are continuations of inpatient antimicrobial treatment, consider the start day to be the first day of outpatient administration.
Was vancomycin the antimicrobial used for this start?	Conditionally required for IV antimicrobial start dialysis events. Indicate whether IV vancomycin was started by selecting "Yes" or "No." If multiple IV antimicrobials were used, select "Yes" if any of them were vancomycin.
Positive blood culture	Report **all** positive blood cultures from specimens collected as an outpatient or collected within one calendar day after a hospital admission. Positive blood cultures meeting this definition should be reported regardless of whether or not the patient was treated for bloodstream infection. 21 day rule: There must be 21 or more days between positive blood cultures for each positive blood culture to be considered a separate dialysis event, even if organisms are different. If positive blood cultures occur less than 21 days apart, the second positive blood culture is NOT considered a new dialysis event and therefore, is not reported. However, if different organisms grow from these subsequent positive blood cultures, add the new organisms to the first report.

Specify pathogen(s) and antimicrobial susceptibilities	Conditionally required for a positive blood culture. See the following section for additional instructions.
Where was the positive blood culture collected	Indicate the location where the blood was drawn for the positive blood culture.

Pathogens and Antimicrobial Susceptibilities	
Data Fields	**Instructions for Completion**
Pathogens	Select each organism identified in the positive blood culture from a pathogen dropdown menu (up to three organisms can be selected). No specific order of microorganisms is required for dialysis event positive blood cultures. The species should be entered once it becomes available on the final lab report. Do not report preliminary results (such as Gram stain). If the species is not indicated on the final lab report or is not listed in the NHSN pathogen dropdown list, then select the "spp" choice for the genus (e.g., *Bacillus natto* is not on the list so it would be reported as *Bacillus* spp.). Note that the pathogen dropdown menu opens to display an abbreviated list of the most common pathogens. A more complete list can be accessed by scrolling to the bottom of the menu and selecting "*(All Pathogens…)"*
Antimicrobial agent and susceptibility results	Conditionally required if ≥1 pathogen is identified. • For organisms shown on the back of the event form, susceptibility results are required only for the antimicrobial agents listed. • For organisms that are not listed on the back of an event form, susceptibility results are optional. • (Optional) Report up to a maximum of 20 additional antimicrobials and susceptibility results, per microorganism.
Antimicrobial agent and susceptibility results (continued)	Select the organism's susceptibility result code for each antimicrobial agent. S – Susceptible I – Intermediate R – Resistant N – Not Tested NS- Non-susceptible S-DD- Susceptible-dose dependent For gentamicin and streptomycin high level tests only, use: S – Susceptible/Synergistic R – Resistant/Not Synergistic

Antimicrobial Drug Code Table

AMK = amikacin	COL = colistin	MOXI = moxifloxacin
AMP = ampicillin	DAPTO = daptomycin	OX = oxacillin
AMPSUL = ampicillin/sulbactam	DORI = doripenem	PB = polymyxin B
AMXCLV = amoxicillin/clavulanic acid	DOXY = doxycycline	PIP = piperacillin
ANID = anidulafungin	ERTA = ertapenem	PIPTAZ = piperacillin/tazobactam
AZT = aztreonam	ERYTH = erythromycin	QUIDAL = quinupristin/dalfopristin
CASPO = caspofungin	FLUCO = fluconazole	RIF = rifampin
CEFAZ= cefazolin	FLUCY = flucytosine	STREPHL = streptomycin-high level test
CEFEP = cefepime	GENT = gentamicin	

CEFOT = cefotaxime
CEFOX= cefoxitin
CEFTAZ = ceftazidime
CEFTRX = ceftriaxone
CEFUR= cefuroxime
CTET= cefotetan
CHLOR= chloramphenicol
CIPRO = ciprofloxacin
CLIND = clindamycin
GENTHL = gentamicin-high level test
IMI = imipenem
ITRA = itraconazole
LEVO = levofloxacin
LNZ = linezolid
MERO = meropenem
METH = methicillin
MICA = micafungin
MINO = minocycline
TETRA = tetracycline
TICLAV = ticarcillin/clavulanic acid
TIG = tigecycline
TMZ = trimethoprim/sulfamethoxazole
TOBRA = tobramycin
VANC = vancomycin
VORI = voriconazole

Event Details (continued)	
Data Fields	**Instructions for Completion**
Suspected source of positive blood culture	Conditionally required for positive blood culture dialysis events. Select one suspected source of the positive blood culture: • Vascular access: Choose "Vascular access" if there is objective evidence of vascular access infection and the vascular access is thought to be the source of the positive blood culture. • A source other than the vascular access: Choose "A source other than the vascular access" if either (a) or (b) is true: a) a culture from another site (e.g., infected leg wound) shows the same organism found in the blood and is thought to be the source of the positive blood culture. b) there is clinical evidence of infection at another site which is thought to be the source of the positive blood culture, but the site was not sampled for culture. • Contamination: Choose "Contamination" if the organism isolated from the blood culture is thought by the physician, infection preventionist, or nurse manager to be a contaminant. Contamination is more likely if the organism is a common commensal and is isolated from only one of several blood cultures. Examples of some common commensals include: diphtheroids [*Corynebacterium* spp., not C. diphtheriae], *Bacillus* spp. [not *B. anthracis*], *Propionibacterium* spp., coagulase-negative staphylococci [including *S. epidermidis*], viridians group streptococci, *Aerococcus* spp., and *Micrococcus* spp. • Uncertain: Choose "Uncertain" only if there is insufficient evidence to decide among the three previous categories.

Pus, redness, or increased swelling at the vascular access site	Report each new outpatient episode where the patient has one or more symptoms of pus, greater than expected redness or greater than expected swelling at any vascular access site, regardless of whether the patient received treatment for infection. Pus is always reportable. Report redness or swelling if it is greater than expected and suspicious for infection. 21 day rule: There must be 21 or more days between the **onset** of one episode and the **onset** of a second episode of pus, redness, or increased swelling at a vascular access site to be considered separate dialysis events. If an episode of pus, redness, or increased swelling at a vascular access site resolves and then recurs within 21 days of the first onset, the recurrence is NOT considered a new dialysis event and therefore, is not reported.
Check the access site(s) with pus, redness, or increased swelling:	Conditionally required if there is pus, redness, or increased swelling at the vascular access site. Select vascular access site(s) with these findings.

Event Details (continued)	
Data Fields	**Instructions for Completion**
*Specify Problem(s)	**Required.** Indicate which problems are present.
Fever	Select if fever ≥37.8°C (100°F) oral is present.
Chills or rigors	Select if chills or rigors are present.
Drop in Blood Pressure	Select if abnormal drop in blood pressure is present.
Wound with pus or increased redness	Select if a wound that is unrelated to the vascular access site has pus or increased redness is present.
Cellulitis	Select if cellulitis is present at a site other than the vascular access and without open wound.
Pneumonia or respiratory infection	Select if pneumonia or other respiratory tract infection is present.
Urinary Tract Infection	Select if urinary tract infection is present.
Other Problem	Select if other problem related to the IV antimicrobial start; positive blood culture; and/or pus, redness, or increased swelling at vascular access site is present. Specify the problem.
None	Select "none" if there are no problems.
*Outcome(s)	**Required**.
Loss of vascular access	Select "Yes" if the event(s) or problem(s) contributed to a loss of the patient's vascular access (i.e., the vascular access required removal or became unusable). Examples of vascular access loss: infection necessitating the removal of a central venous catheter or graft, or rendering a fistula or graft unusable for ≥1 treatment. Select "No" if there was no loss of vascular access. Check "Unknown" if uncertain about whether there was loss of vascular access.
Hospitalization	Select "Yes" if the event(s) or problem(s) contributed to the patient's hospitalization. Select "No" if patient was not admitted to a hospital. Select "Unknown" if uncertain about whether or not the patient was hospitalized.

Death	Select "Yes" if the event(s) or problem(s) contributed to the patient's death. Select "No" if patient did not die. Select "Unknown" if uncertain about whether or not the patient died or if cause of death was unknown.

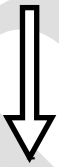
Custom Fields	
Custom fields	Optional. Up to 50 alphanumeric, numeric, and/or date fields may be added to this form for local use. **NOTE:** Each custom field must be added in advance. Within NHSN, select "Facility," then "Customize Forms," and then follow on-screen instructions. The Form Type is "CDC-Defined – PS – Event" and form is "DE – Dialysis Event."

Comments	
Comments	Optional. Use this field to add any additional information about the dialysis event that would help you to interpret your surveillance data. CDC typically does not analyze these data.

Instructions for the Denominators for Dialysis Event Form

(CDC 57.503)

** Indicates a required field when reporting in-plan.*

Data Field	Instructions for Data Collection
Facility ID #	The NHSN-assigned facility ID will be auto-entered by the computer.
*Location code	**Required**. Enter the location code for the outpatient hemodialysis clinic location from which you will collect data about dialysis events.
*Month	**Required**. Enter the month during which the data were collected for this location.
*Year	**Required**. Enter the 4-digit year during which the data were collected for this location.
*Number of Maintenance Hemodialysis Patients by Vascular Access Type	**Required**. For each type of vascular access listed, enter the number of patients who received maintenance hemodialysis at this location on the first two working days of the month, including transient patients. Consider all vascular accesses the patient has, even if they are not used for dialysis and even if they are abandoned and/or are non-functional. A patient must be physically present for in-center maintenance hemodialysis on one of these days to be counted on this form (exclude patients who are hospitalized). Record each patient **only once**. If a patient has more than one vascular access, record the access type with highest risk for infection, using the following hierarchy: **Lower Risk**  Fistula Graft Other vascular access device (e.g., catheter-graft hybrid access) Tunneled Central Line Nontunneled Central Line **Higher Risk** For example, if a patient has a fistula and a tunneled central line, count this patient under the category of tunneled central line. If the patient has a fistula and a "jump graft" record the patient as having a graft. If the patient has only a catheter-graft hybrid or a port, record as "other access device".
umber of these Fistula Patients who undergo Buttonhole Cannulation	Conditionally required. Out of the fistula patients counted above, how many are primarily cannulated with buttonhole cannulation technique, where a blunt needle (cannula) is inserted into the fistula at the same location each time using an established track.
*Total patients	**Required**. The sum of all patients listed above will enter automatically.
Custom fields	Optional. Up to 50 alphanumeric, numeric, and/or date fields may be added to this form for local use. **NOTE:** Each custom field must be added in advance. Within NHSN, select "Facility," then "Customize Forms," and then follow on-screen instructions. The Form Type is "CDC-Defined – DIAL – Summary Data" and form is "DIAL – Denominators for Dialysis Event form."

Instructions for the Outpatient Dialysis Center Practices Survey
(CDC 57.500)

A complete survey is an annual reporting requirement specified in the NHSN Dialysis Event Protocol. Users cannot create Monthly Reporting Plans or submit monthly data for May through December until a survey for that year is completed.

Print a blank survey from: http://www.cdc.gov/nhsn/forms/57.104_PSOutpatientDialysisSurv_BLANK.pdf

A worksheet is available to calculate answers for patient- and staff-specific questions. Click here to access the worksheet: http://www.....

Complete one survey per center. Surveys are completed for the current year. It is strongly recommended that the survey is completed in February of each year by someone who works in the center and is familiar with current practices within the center. Complete the survey based on the actual practices at the center, not necessarily the center policy, if there are differences.

Survey Question	Instructions for Data Collection
Facility ID #	The NHSN-assigned facility ID will be auto-entered by the computer.
Survey Year	**Required**. Enter the 4-digit year that the data were collected for this facility.
A. Dialysis Center Information	
A.1. General	
1. Ownership	**Required.** Select the ownership of your dialysis center: Government, Not for profit, or For profit.
2. Hospital affiliation	**Required.** Select the location/hospital affiliation of your dialysis center: ○ Freestanding: the dialysis center is not hospital affiliated. ○ Hospital based: the dialysis center is affiliated with a hospital and the building is attached to, or part of, the hospital. ○ Freestanding, but owned by a hospital: the dialysis center is affiliated with a hospital, but the building is not attached to the hospital.
3. Dialysis services	**Required.** Indicate all dialysis service types that are offered by your facility: ○ In-center daytime hemodialysis ○ In-center nocturnal hemodialysis ○ Peritoneal dialysis ○ Home hemodialysis (includes home, home-assisted, and NxStage®[5] patients)
4. Stations	Conditionally required if for question 3, in-center hemodialysis was selected. Enter the number of useable in-center hemodialysis stations in your facility.
5. Group/chain	**Required.** Select "Yes" if your facility is part of a group or chain of dialysis centers. If owned and managed by two different groups, then indicate the managing company. Select "No" if your facility is not owned by a group or chain of dialysis centers.
a. Group/chain name	Conditionally required. Enter the name of the dialysis facility group or chain.

[5] Use of trade names and commercial sources is for identification only and does not imply endorsement.

Survey Question	Instructions for Data Collection
6. Data collector	**Required.** Select "Yes" if the person who is primarily responsible for collecting the NHSN survey data performs patient care in the facility. Select "No" if the person who is primarily responsible for collecting these survey data does not perform patient care in the facility.
7. Person in charge of infection control	**Required.** Select "Yes" if there is at least one person at your dialysis facility who is designated as in charge of infection control. Select "No" if no one is designated as in charge of infection control.
a. Person in charge of infection control description	Conditionally required. Select the description(s) that best describe the person(s) in charge of infection control in your dialysis facility.
8. Vascular access nurse/coordinator	**Required.** Select "Yes" if there is a dedicated vascular access nurse or coordinator, either full or part-time, at your facility. Select "No" if there is no dedicated vascular access nurse or coordinator.
A.2. Isolation and Screening	
9. Capacity to isolate hepatitis B patients	**Required.** Select "Yes, use hepatitis B isolation room" if a separate room exists where patients positive for hepatitis B virus infection receive hemodialysis. Select "Yes, use hepatitis B isolation area" if a specific section of the hemodialysis clinic is designated as an area for patients positive for hepatitis B virus infection to receive hemodialysis. Select "No hepatitis B isolation" if your facility does not have the capacity to isolate patients who are positive for hepatitis B virus infection.
10. Conditions isolated/cohorted	**Required.** Select all of the conditions for which patients are routinely isolated or cohorted for treatment within your facility. • Select only those conditions that are admitted and isolated by your facility. If your facility would refer the patient with the condition (e.g., active TB) elsewhere for dialysis, do not select that condition on the survey. • Select only those conditions for which all patients that are positive for the condition are isolated. If additional criteria are used to isolate some positive patients (e.g., active diarrhea, draining wound), but not all, do not select this condition for the survey. If no other conditions are routinely isolated or cohorted for treatment within your facility, select "None."
11. TB screening	**Required**. Select "Yes" if your center routinely screens patients for tuberculosis (TB disease) upon admission. Select "No" if patients are not routinely screened for TB upon admission.
A.3. Patient Records	
12. Station assignment	**Required.** Select "Yes" if your facility maintains records of patients' hemodialysis station assignment. Select "No" if these records are not maintained.
13. Machine assignment	**Required.** Select "Yes" if your facility maintains records of patients' hemodialysis machine assignment. Select "No" if these records are not maintained.
14. BSI hospitalizations	**Required.** Following a hospitalization, indicate the frequency with which your facility is able to determine whether a bloodstream infection contributed to the patient's hospital admission. Select "N/A – not pursued" only if your facility does not routinely try to determine the cause of hospitalizations.

Survey Question	Instructions for Data Collection
15. Hospital lab records	**Required.** Following a hospitalization, indicate the frequency with which your facility is able to obtain the patient's hospital microbiology lab records. Select "N/A – not pursued" only if your facility does not routinely request microbiology lab records for patient hospitalizations.
B. Patient and staff census	
16. Operational during first week of February	**Required.** Select "Yes" if your facility was open for hemodialysis treatment during the first week of February (the first seven calendar days of the month) of the survey year. Select "No" if your facility was closed for hemodialysis treatment during the first week of February of the survey year. • If you select "No," answer subsequent questions about the first week of February based on policy and enter zeros for quantitative questions.
17. Number of dialysis patients in 1st week of February	**Required.** Indicate the total number of all the maintenance, non-transient, dialysis patients assigned to your facility during the first week of February (the first seven calendar days of the month) of the survey year (include in-center hemodialysis, home hemodialysis, and peritoneal dialysis patients). The sum of 17.a., 17.b., and 17.c., must be less than or equal to the answer to question 17.
a. In-center hemodialysis	Conditionally required if in-center hemodialysis services were indicated for question 3. Of the patients specified in question 17, indicate how many underwent in-center hemodialysis during the first week of February.
b. Home hemodialysis	Conditionally required if home hemodialysis services were indicated for question 3. Of the patients specified in question 17, indicate how many underwent home hemodialysis during the first week of February. Include home, home-assisted, and NxStage®[6] patients.
c. Peritoneal dialysis.	Conditionally required if peritoneal dialysis services were indicated for question 3. Of the patients specified in question 17, indicate how many underwent peritoneal dialysis during the first week of February.
18. Number of staff in 1st week of February	**Required**. Indicate the total number of patient care staff persons (including full time, part time, and affiliated with) who worked in your facility during the first week of February (the first seven calendar days of the month) of the survey year. *Include only those staff persons whose role involves direct contact with dialysis patients or equipment*. • Count each person as 1, even if they work part-time. • If a person works at more than one facility, they are counted as 1 at each facility. • Include physicians who see patients in the facility. • Include patient care staff who are normally present during the year, but were absent this week due to vacation or other leave. • Include per diem staff only if they are consistently part of facility staffing. • If your facility was not operational during the 1st week of February, enter 0.

[6] Use of trade names and commercial sources is for identification only and does not imply endorsement.

Survey Question	Instructions for Data Collection
a.-h. Occupational categories	Conditionally required if answer to question 18 is equal to 1 or more. Of the total number of patient care staff specified in question 18, indicate the number per occupational category. The sum of the occupational categories 18.a. – 18.h. must equal the number of patient care staff indicated in question 18.
C. Vaccines	
19. a. Patients received hepatitis B vaccine	Conditionally required if answer to question 17 is equal to 1 or more. Of all maintenance, non-transient patients indicated in question 17 (a.-c.), indicate how many have ever received at least 3 doses of hepatitis B vaccine. • Do not count patients who are in the process of completing the hepatitis B vaccine series. • Include all patients who have received 3 or more doses, even if the brand of hepatitis B vaccine being used requires four doses to complete the series. • Include patients with documentation of having received 3 or more doses, even if they were not vaccinated at your facility.
b. All hemodialysis patients who received influenza vaccine	Conditionally required if answer to question 17 is equal to 1 or more. Of all maintenance, non-transient patients indicated in question 17 (a.-c.), indicate how many received the influenza (flu) vaccine for this flu season (September or later). • This question refers to the flu season that began in the year preceding the survey year. For example, if the survey year is 2014, count flu vaccinations for the 2014-2015 flu season. • Include patients who report having received a flu vaccination for this season (or for whom there is documentation) even if they were not vaccinated at your facility.
c. In-center hemodialysis patients received influenza vaccine	Conditionally required if answer to question 17 is equal to 1 or more. Of all maintenance, non-transient in-center patients indicated in question 17a. only, indicate how many received the influenza (flu) vaccine for this flu season (September or later). • This question refers to the flu season that began in the year preceding the survey year. For example, if the survey year is 2014, count flu vaccinations for the 2014-2015 flu season. • Include patients who report having received a flu vaccination for this season (or for whom there is documentation) even if they were not vaccinated at your facility.
d. Patients received pneumococcal vaccine	Conditionally required if answer to question 17 is equal to 1 or more. Of the total number of maintenance, non-transient patients indicated in question 17, indicate how many have ever received the pneumococcal vaccine, even if they were not vaccinated at your facility.

Survey Question	Instructions for Data Collection
20. Number of in-center hemodialysis patients vaccinated against hepatitis B	Conditionally required. Of the total number of maintenance, non-transient *hemodialysis* patients indicated in question 17a, indicate how many ever received at least 3 doses of hepatitis B vaccine. • Do not count patients who are in the process of completing the series. • Include all hemodialysis patients who received 3 or more doses, even if the brand of hepatitis B vaccine being used requires four doses. • Include patients who have documentation of having a complete hepatitis B vaccine series, even if not received at your facility.
a. Number of home hemodialysis patients vaccinated against hepatitis B	Conditionally required. Of the total number of maintenance, non-transient *hemodialysis* patients indicated in question 17b, indicate how many ever received at least 3 doses of hepatitis B vaccine. • Do not count patients who are in the process of completing the series. • Include all hemodialysis patients who received 3 or more doses, even if the brand of hepatitis B vaccine being used requires four doses. • Include patients who have documentation of having a complete hepatitis B vaccine series, even if not received at your facility.
21. a. Patient care staff who received hepatitis B vaccine	Conditionally required. Of the patient care staff members counted in question 18, indicate how many have ever received at least 3 doses of hepatitis B vaccine. • Do not count staff members who are in the process of completing the series. • Include all staff members who received 3 or more doses, even if the brand of hepatitis B vaccine being used requires four doses. • Include patient care staff members who report having received at least 3 doses of hepatitis B vaccine (or for whom there is documentation) even if not received at your facility.
b. Patient care staff who received influenza vaccine	Conditionally required. Of the patient care staff members counted in question 18, indicate how many received the flu vaccine for the current/most recent flu season. • This refers to the flu season that began in the year preceding the survey year. For example, if the survey year is 2014, count flu vaccinations for the 2014-2015 flu season. • Include patient care staff members who report having received a flu vaccination for this season (or for whom there is documentation) even if they were not vaccinated at your facility.

Survey Question	Instructions for Data Collection
22. Vaccine standing orders	**Required.** Select "Yes" if your facility uses standing orders to allow nurses to administer some or all vaccines to patients without a specific physician order. Select "No" if there are no standing orders for any vaccines.
23. Type of pneumococcal vaccine(s)	**Required.** Indicate the type(s) of pneumococcal vaccine offered to your facility's patients: ○ Polysaccharide: pneumococcal polysaccharide vaccine, called PPSV23 or Pneumovax®.[7] ○ Conjugate: pneumococcal conjugate vaccine, called PCV13 or Prevnar® 13.[3] If type of vaccine offered is unknown, select "Offered, but type unknown." If pneumococcal vaccine is not offered, select "Not offered."

D. Hepatitis B and C	
D.1. Hepatitis B - Complete this section even if your facility does not treat hepatitis B surface antigen (HBsAg) positive patients.	
24. a. In-center HD patients with HBV infection during 1st week of February	**Required**. Of the maintenance, non-transient, *in-center hemodialysis* patients specified in question 17.a., indicate how many were hepatitis B virus surface antigen (i.e., HBsAg) positive in the first week of February (i.e., the first seven calendar days of the month). This is a measure of prevalence of hepatitis B virus infection among patients in your facility during this period.
a.i. In-center HD patients with HBV infection upon admission	**Required**. Of the maintenance, non-transient*, in-center hemodialysis* patients specified in question 24.a., indicate how many were hepatitis B virus surface antigen (i.e., HBsAg) positive when they were first admitted to your facility (i.e., they had hepatitis B virus infection upon admission). This is a measure of prevalence of hepatitis B virus infection among your incoming patients.
b. In-center HD patients acquired HBV infection in 12 months prior to February	**Required**. Of the maintenance, non-transient*, in-center hemodialysis* patients specified in question 17.a., indicate how many converted from hepatitis B virus surface antigen (i.e., HBsAg) negative to positive during the 12 months prior to February (i.e., they acquired HBV infection in the past year). Do not include patients who were antigen positive before they were first dialyzed in your center (i.e., patients specified in question 24.a.i.). This is a measure of annual incidence of hepatitis B virus infection among patients in you facility.
D.2. Hepatitis C	
25. Hepatitis C antibody admission screening	**Required.** Select "Yes" if your facility screens hemodialysis patients for hepatitis C antibody (anti-HCV) upon admission. Select "No" if your facility does not screen hemodialysis patients for hepatitis C antibody (anti-HCV) upon admission.

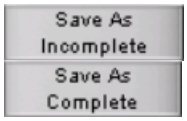
[7] Use of trade names and commercial sources is for identification only and does not imply endorsement.

26. Hepatitis C antibody screening at times other than admission	**Required.** Select "Yes" if your facility screens hemodialysis patients for hepatitis C antibody (anti-HCV) at any time other than upon admission. Select "No" if your facility does not screen hemodialysis patients for hepatitis C antibody (anti-HCV) at any other times than upon admission. Select "No" if hepatitis C testing is diagnostic only.
a. Hepatitis C antibody screening frequency	Conditionally required. Indicate the frequency of non-admission hepatitis C antibody (anti-HCV) screening. ○ Twice annually: screening is two times per year, after admission. ○ Annually: if screening is once per year, after admission. Otherwise, select "Other" and specify the frequency of post-admission HCV screening.
27. a. In-center HD patients with HCV infection during 1st week of February	**Required**. Of the maintenance, non-transient*, in-center hemodialysis* patients specified in question 17.a., indicate how many were hepatitis C virus antibody (i.e., anti-HCV) positive in the first week of February (the first seven calendar days of the month). If your facility does not screen for hepatitis C antibody, respond to the question counting patients with records of known history of HCV infection, if any. This is a measure of prevalence of hepatitis C virus infection among your patients.
a.i. In-center HD patients with HCV infection upon admission	**Required**. Of the maintenance, non-transient*, in-center hemodialysis* patients specified in question 27.a., indicate how many were hepatitis C antibody (anti-HCV) positive when they were first admitted to your facility (i.e., they had hepatitis C virus infection upon admission). If your facility does not screen for hepatitis C antibody, respond to the question counting patients with records of known history of HCV infection, if any. (Note: if your facility dos not screen for hepatitis C upon admission, this will be the same response as 27.a.) This is a measure of prevalence of hepatitis C virus infection among your patients.
b. In-center HD patients acquired HCV infection in 12 months prior to February	**Required**. Of the maintenance, non-transient*, in-center hemodialysis* patients specified in question 17.a., indicate how many converted from hepatitis C antibody (i.e., anti-HCV) negative to positive during the 12 months prior to February (i.e., they acquired HCV infection in the past year). Do not include patients who were antibody positive before they were first dialyzed in your center (i.e., patients specified in question 27.a.i.). If your facility does not screen for hepatitis C antibody, respond to the question counting patients with records of known history of HCV infection, if any. This is a measure of annual incidence of hepatitis C virus infection among your patients.
E. Dialysis Policies and Practices	
E.1. Dialyzer Reuse	
28. Dialyzer reuse	**Required.** Select "Yes" if dialyzers are reused for any patients. Select "No" if dialyzers are never reused. ○ Facilities that use non-disposable dialyzers for more than one patient treatment should answer "Yes" to this question. ○ All facilities with a dialyzer reuse program would answer "Yes" to this question.
a. Dialyzer reprocessing location	Conditionally required. Indicate whether dialyzers are reprocessed at your facility, if they are transported to an off-site facility for reprocessing, or if they are reprocessed both at your facility and off-site.

b. Dialyzer refrigeration	Conditionally required. Select "Yes" if dialyzers are refrigerated prior to being reprocessed. Select "No" if dialyzers are not refrigerated prior to reprocessing.
c. Dialyzer header cleaning	Conditionally required. Select all dialyzer header cleaning methods in use. If there is no header cleaning step, select "No separate header cleaning step performed."
d. Dialyzer reuse limit	Conditionally required. If there is a number limit for the number of times the dialyzer can be reused, select "Yes" and indicate the maximum number. Otherwise select "No limit as long as dialyzer meets certain criteria."
E.2. Dialysate	
29. Type of dialysate	**Required.** Indicate the type of dialysate that is used for in-center hemodialysis patients at your center. ○ Ultrapure: dialysate with a viable microbial count less than 0.1 CFU/ml and an endotoxin level less than 0.03 EU/ml. ○ Conventional: dialysate that does not meet the ultrapure definition above.
30. Culture and endotoxin tests after pyrogenic reactions	**Required.** Select "Yes" only if your facility routinely tests a patient's dialysate for both culture and endotoxin whenever a patient has a pyrogenic reaction. Select "No" if testing dialysate for both culture and toxin is not routine practice. If there has never been a pyrogenic reaction among your patients, respond based on facility policy.
E.3. Priming Practices	
31. Waste Handling Option (WHO) ports	**Required.** A waste handling option (WHO) port is a feature of some hemodialysis machines that is designed to dispose of the saline that is flushed through the dialyzer before the machine is used for a patient. Select "Yes" if your facility uses WHO ports. Select "No" if the hemodialysis machines at your facility do not have WHO ports or select "No" if the WHO ports are present, but not used.
32. Bled onto machine	**Required.** Select "Yes" if any patients in your facility are "bled onto the hemodialysis machine," a process where blood is allowed to reach or almost reach the prime waste receptacle or WHO port. Select "No" if patients are not bled onto their machines.
E.4. Injection Practices	
33. Form of erythropoiesis stimulating agent	**Required.** Indicate the form of erythropoiesis stimulating agent (ESA) that is most often used in your facility. "Single-dose" (also known as "single-use") and "multi-dose" refer to specific manufacturer designations that are printed on the product packaging/label, not the dosing practice in use. Please refer to the ESA's label to determine if the product most frequently used in your facility is labeled "single-dose" or "multi-dose." If ESA is not used, select "N/A."
a. ESA single-dose vial or syringe	Conditionally required. Select "Yes" if ESA from a single-dose vial or syringe is ever administered to more than one patient. Select "No" if ESA from a single-dose vial or syringe is never administered to more than one patient.
34. Medication preparation location	**Required.** Indicate the location where medications are most commonly drawn into syringes to prepare for patient administration.
35. Technician IV med administration	**Required.** Select "Yes" if technicians ever administer any IV medications or infusates, such as heparin or saline, to patients. Select "No" if technicians never administer IV medications to patients.
E.5. Antibiotic Use	

36. a.-d. Appropriate antibiotic use	**Required.** Select "Yes" only for those practices that have been implemented for the *purpose of appropriate antimicrobial use*. If antimicrobials are restricted, but for another purpose (e.g., cost management), select "No." Select "No" if there are no antimicrobial restrictions in your center. ○ Have a written policy on antibiotic use: any written plan to guide and determine the present and future decisions about appropriate antibiotic use. ○ Formulary restrictions: the existence of rules that limit the use of certain types of antimicrobials. ○ Antibiotic use approval process: a mechanism exists to ensure specific criteria are met before antibiotics are administered. ○ Automatic stop orders for antibiotics: in the absence of a physician's review and order for continuation, antibiotics are automatically discontinued after a specified period.
37. Infection prevention initiatives	**Required.** Select "Yes" if your facility participates in any national or regional infection prevention initiatives. This includes infection prevention initiatives directed by your ESRD Network.
a. Initiative types	Conditionally required. Indicate the primary focus of the initiative. If involved in more than one initiative, indicate the primary focus of each initiative.
38. CDC-recommended core interventions for BSI prevention in dialysis settings	**Required.** Select "Yes" if your facility follows *all* nine CDC-recommended core interventions for BSI prevention in dialysis settings for *all* of your in-center hemodialysis patients. Select "No" if your facility does not follow all nine CDC-recommended core interventions. Select "No" if all nine core interventions are not implemented among all of your hemodialysis patients. Select "Don't know" if you are uncertain about whether all nine CDC-recommended core interventions are followed for all of your facility's hemodialysis patients.
39. Hand hygiene audits	**Required.** Select "Yes" if your facility performs hand hygiene audits monthly, or more frequently. Select "No" if your facility does not perform hand hygiene audits, or if the audits are performed less often than monthly.
40. Vascular access care and catheter access practice observation	**Required.** Select "Yes" if your facility performs vascular access care observations and catheter access observations quarterly, or more frequently. Select "No" if your facility does not perform vascular access care observations and catheter access observations, or if the observations are performed less often than quarterly.
41. Vascular access care and catheter access practice competency	**Required.** Select "Yes" if your facility performs staff competency assessments for vascular access care and catheter accessing annually, or more frequently. Select "No" if your facility does not perform staff competency assessments for vascular access care and catheter accessing, or if the assessments are performed less often than yearly.
E.7. Peritoneal Dialysis	
42. Peritoneal dialysis catheter antimicrobial ointment	**Required.** Select "Yes" if antimicrobial ointment is routinely applied to peritoneal dialysis catheter exit sites during dressing changes. Select "No" if antimicrobial ointment is not routinely applied to the peritoneal dialysis catheter exit site during dressing changes. Select "N/A" if your facility does not provide peritoneal dialysis treatment.

	a. Peritoneal dialysis catheter antimicrobial ointment type	Conditionally required. Select the antimicrobial ointment that is most commonly applied to the peritoneal dialysis catheter exit site during dressing changes.
F.	**Vascular Access**	
F.1.	General Vascular Access Information	
43.	a.-e. Hemodialysis access types	**Required.** Of the total number of maintenance, non-transient *hemodialysis* patients indicated in question 17 (i.e., 17.a. in-center +17.b. home hemodialysis), indicate how many patients received hemodialysis through each access type during the first week of February (the first seven calendar days of the month). • Note: this question requires a different counting process than the Denominators for Outpatient Dialysis form: count all accesses that were used for hemodialysis during the week.
F.2.	**Arteriovenous (AV) Fistulas or Grafts**	
44.	Graft/fistula cleanser used before prep	**Required.** Indicate whether the graft/fistula site is most often cleansed with soap and water, or alcohol-based hand rub, prior to prepping the area for puncture. Select "Other" and specify if a different cleanser is used. Select "Nothing" if a cleanser is not used.
45.	Graft/fistula puncture prep	**Required.** To prep the graft or fistula for puncture, indicate the antiseptic/disinfectant that is most often used to prep the area.
	a. Graft/fistula puncture prep form	Conditionally required. Indicate the form of the antiseptic/disinfectant used to prep grafts or fistulas for puncture.
46.	Buttonhole cannulation	**Required.** Buttonhole cannulation is a technique where a patient's fistula is regularly accessed by inserting a blunt needle (cannula) into the fistula at the same location each time using an established track. Indicate if "All," "Most," "Some," or "None" of your fistula patients undergo buttonhole cannulation.
	a. Buttonhole patients	Conditionally required. Of the patients whose fistulae are accessed via the buttonhole cannulation technique, indicate whether they are in-center hemodialysis patients only, home hemodialysis patients only, or both.
	b. Buttonhole antimicrobial ointment	Conditionally required. Select "Yes" if antimicrobial ointment is applied at the buttonhole cannulation site to prevent infections. Select "No" if antimicrobial ointment is not used at the buttonhole cannulation site to prevent infections.
	c. Buttonhole cannulation performed by	Conditionally required. Among the in-center hemodialysis patients, indicate whether buttonhole cannulation is most often performed by a nurse, the patient, or a technician. Otherwise, select "Other" and specify who most often performs buttonhole cannulation.
F.3.	**Hemodialysis Catheters** If there are no patients with hemodialysis catheters, refer to facility policy to answer the following questions.	
47.	Catheter hub prep	**Required.** Prior to accessing hemodialysis catheters, indicate what product is most commonly used to prep the catheter hubs.
	a. Catheter hub prep form	Conditionally required. Indicate the form of the antiseptic/disinfectant used to prep catheter hubs prior to access.

48. Catheter hub scrub	**Required.** Select "Yes" if catheter hubs are routinely scrubbed after the cap is removed, but before the catheter is accessed. Select "No" if scrubbing catheter hubs is not routine practice.
49. Catheter exit site prep	**Required.** When a catheter exit site dressing is changed, indicate the antiseptic/disinfectant that is most often used to prep the area.
a. Catheter exit site prep form	Conditionally required. Indicate the form of the antiseptic/disinfectant used to prep catheter exit sites when the dressing is changed.
50. Catheter exit site antimicrobial ointment	**Required.** Select "Yes" if antimicrobial ointment is routinely applied to hemodialysis catheters during dressing changes. Select "No" if antimicrobial ointment is not routinely applied to hemodialysis catheters during dressing changes.
a. Catheter exit site antimicrobial ointment type	Conditionally required. If antimicrobial ointment is routinely applied to hemodialysis catheters during dressing changes, indicate the type of ointment that is most commonly used.
51. Hemodialysis catheter care staff	**Required.** Indicate the job classification of the staff person who primarily performs hemodialysis catheter care (i.e., accesses catheters or changes dressings).
52. Antimicrobial lock solutions to prevent infection	**Required.** Indicate whether antimicrobial lock solutions are used to *prevent* hemodialysis catheter infections for all catheter patients in your facility, for some catheter patients in your facility, or for none of the catheter patients in your facility.
a. Antimicrobial lock solutions	Conditionally required. Indicate the type of antimicrobial lock solution that is most commonly used in your facility.
53. Closed connector luer access devices	**Required.** Select "Yes" if closed connector luer access devices are used on hemodialysis catheters in your facility. Select "No" if closed connector luer access devices are not used on hemodialysis catheters in your facility.
a. Closed connector luer access device type	Conditionally required. If closed connector luer access devices are used on hemodialysis catheters in your facility, indicate the type used.
b. Closed connector luer access device patients	Conditionally required. If closed connector luer access devices are used on hemodialysis catheters in your facility, indicate if they are used for home hemodialysis patients, in-center hemodialysis patients, or both.
54. Other antimicrobial/ antiseptic products	**Required.** Indicate all of the applicable antimicrobial/antiseptic products that are in use for hemodialysis catheters in your facility.
Comments	Optional. Use this field to add any additional information about the dialysis survey necessary to interpret your responses. If the character limit is inadequate, please email your comments to the NHSN Helpdesk at nhsn@cdc.gov.
Save as … 	A complete survey is an annual reporting requirement specified in the NHSN Dialysis Event Protocol. Users are prevented from creating Monthly Reporting Plans and submitting monthly data for April through December until a survey for that year has been saved as complete. Surveys can be saved as complete as early as February 8 each year.

For additional assistance, email the NHSN Helpdesk (nhsn@cdc.gov) and include "dialysis" in the subject line.