Project Title:

End-Stage Renal Disease Vascular Access Measure Development

Project Overview:

The Centers for Medicare & Medicaid Services (CMS) has contracted with the University of Michigan Kidney Epidemiology and Cost Center (UM-KECC) to review the NQF endorsed Vascular Access measures (Minimizing Use of Catheters as Chronic Dialysis Access (#0256), and Maximizing Placement of Arterial Venous Fistula(#0257)) and consider possible revisions to the existing measures, including potential risk adjustment. The contract name is ESRD Quality Measure Development, Maintenance, and Support. The contract number is HHSM-500-2013-13017I.

Date:

Information included is current on March 11, 2016

Measure Name

Descriptive Information

Measure Name (Measure Title De.2.)
Hemodialysis Vascular Access: Standardized Fistula Rate

Measure Type De.1.
Intermediate Outcome

Brief Description of Measure De.3.
Adjusted percentage of adult hemodialysis patient-months using an autogenous arteriovenous fistula (AVF) as the sole means of vascular access.

If Paired or Grouped De.4.
This measure is paired with Hemodialysis Vascular Access: Long-term Catheter Rate. These two vascular access quality measures, when used together, consider Arterial Venous (AV) fistula use as a positive outcome and prolonged use of a tunneled catheter as a negative outcome. With the growing recognition that some patients have exhausted options for an arteriovenous fistula, or have comorbidities that may limit the success of AVF creation, pairing the measures accounts for all three vascular access options. The fistula measure adjusts for patient factors where fistula placement may be either more difficult or not appropriate and acknowledges that in certain

circumstances an AV graft may be the best access option. This paired incentive structure that relies on both measures reflects consensus best practice, and supports maintenance of the gains in vascular access success achieved via the Fistula First/Catheter Last Project over the last decade.

Subject/Topic Areas De.5.
Renal: Renal
Renal: End State Renal Disease

Crosscutting Areas De 6.
N/A

Measure Specifications

Measure-specific Web Page S.1.
TBD

If This Is an eMeasure S.2a.
N/A

Data Dictionary, Code Table, or Value Sets S.2b.
See Appendix A.

For Endorsement Maintenance S.3.
N/A

Numerator Statement S.4.
The numerator is the adjusted count of adult patient-months using an AVF as the sole means of vascular access as of the last hemodialysis treatment session of the month.

Time Period for Data S.5.
12 months

Numerator Details S.6.
The number of patient-months using a fistula as the sole means of vascular access at a given facility, adjusted for patient-mix.

A patient-month is counted in the numerator if the CROWNWeb "Access Type ID" = 14 or 22 at the last treatment of the month, where "14" represents AV fistula only (with 2 needles) and "22" represents AV fistula single needle device.

Denominator Statement S.7.
All patients at least 18 years old as of the first day of the reporting month who are determined to be maintenance hemodialysis patients (in-center and home HD) for the complete reporting month at the same facility.

Target Population Category S.8.
Populations at risk: Populations at risk

Denominator Details S.9.

For each patient, we identify the dialysis provider at each month using a combination of Medicare-paid dialysis claims, the Medical Evidence Form (Form CMS-2728), and data from CROWNWeb. These sources are used to identify patients that are on in-center or home hemodialysis for the entire reporting month. Patients are required to have been treated by the same facility for the complete month in order to be assigned to that facility for the reporting month.

To be included in the denominator for a particular reporting month, the patient must be ≥18 years old as of the first day of the month.

The monthly patient count at a facility includes all patients (home and in-center) who receive hemodialysis. Incident patients (those who received ESRD treatment for the first time ever) are included in this count. The number of patient-months over a time period is the sum of patients reported for the months covered by the time period. An individual patient may contribute up to 12 patient-months per year.

Denominator Exclusions (NQF Includes "Exceptions" in the "Exclusion" Field) S.10.
Exclusions that are implicit in the denominator definition include:
- Pediatric patients (<18 years old)
- Patients on Peritoneal Dialysis
- Patient-months with in-center or home hemodialysis for less than a complete month at the same facility

In addition, the following exclusions are applied to the denominator:

Patients with a catheter that have limited life expectancy:

- Patients under hospice care in the current reporting month
- Patients with metastatic cancer in the past 12 months
- Patients with end stage liver disease in the past 12 months
- Patients with coma or anoxic brain injury in the past 12 months

Denominator Exclusion Details (NQF Includes "Exceptions" in the "Exclusion" Field) S.11.
Determination of peritoneal dialysis treatment modality is derived from a combination of Medicare-paid dialysis claims, the Medical Evidence Form (Form CMS-2728), and data from CROWNWeb. These sources also determine patient assignment to the facility. Patients not treated by the facility for the entire month are excluded for that reporting month.

The patient's age is determined by subtracting the patient's date of birth from the first day of the reporting month. Patients that are <18 years old as of the first day of the reporting month are excluded.

For the exclusion of catheter patients with limited life expectancy, catheter use in the reporting month is defined as the CROWNWeb "Access Type ID" having any of the following values: (16,18,19,20,21,"·"), where "." represents missing.

Hospice status is determined from a separate CMS file that contains final action claims submitted by Hospice providers. Once a beneficiary elects Hospice, all Hospice related claims will be found in this file, regardless if the beneficiary is in Medicare fee-for-service or in a Medicare managed care plan. Patients are identified as receiving hospice care if they have any final action claims submitted to Medicare by hospice providers in the current month.

Diagnoses of metastatic cancer, end stage liver disease, or coma in the past 12 months were determined from Medicare claims. Medicare claim types include inpatient admissions, outpatient claims (including dialysis claims) and physician services. Claims from providers, such as laboratories that report diagnosis codes when testing for the presence of a condition are excluded. A detailed list of ICD-9/ICD-10 diagnostic codes and HCPCS CPT codes used to identify these comorbidities is included in Table 3 of the attached document.

Stratification Details/Variables S.12.
N/A

Risk Adjustment Type S.13.
Statistical risk model

Statistical Risk Model and Variables S.14.
The proposed SFR measure is a directly standardized percentage, in that each facility's percentage of AVF use is adjusted to the national distribution of covariates (risk factors) (with 'national' here referring to all-facilities-combined). The SFR for facility i is an estimate of what the facility's percentage of AVF would equal if the facility's patient mix was equal to that of the nation as a whole. The measure is adjusted for patient demographic and clinical characteristics based on a logistic regression model. This model includes the facility indicators and assumes that the regression coefficients of risk factors are the same across all facilities. The common risk effects are assumed in order to improve computational stability in estimating facility-specific effects.

The patient characteristics included in the logistic regression model as covariates are:
- Age
- BMI at incidence
- Nursing home status in previous year
- Nephrologist's care prior to ESRD
- Duration of ESRD
- Inability to ambulate/transfer at ESRD incidence (CMS-2728 form)
- Comorbidities either at ESRD incidence (CMS-2728 form) or prevalent comorbidities based on Medicare claims filed in prior 12 months
    - Diabetes
    - Heart diseases
    - Peripheral vascular disease
    - Cerebrovascular disease
    - Chronic obstructive pulmonary disease

- o Anemia (unrelated to ESRD/CKD)
        - o Non-Vascular Access-Related Infections
        - o Drug dependence
    - Indicator for Medicare coverage for at least 6 months during the past 12 months

Detailed Risk Model Specifications S.15.

Let n_i be the number of patients treated at the ith facility (for $i = 1,...,F$), x_{ijm} be a vector of the patient characteristics, and p_{ijm} be the probability of dialyzing with an AVF for the jth patient in the ith facility (for $j = 1,...,n_i$) in the mth month. To estimate facility effects, we use the following logistic regression model

$$logit(p_{ijm}) = \alpha_i + \beta'x_{ijm},$$

and denote the resulting estimates of facility effects $(\alpha_1,...,\alpha_F)$ by $(a_1,...,a_F)$ and the estimates of the risk effects β by b.

The model is fitted using Generalized Estimating Equations (GEE; Liang and Zeger, 1986) in order to account for the correlation within-patient across months. With 6,000 facilities, it is difficult to estimate all parameters (i.e., including the facility indicators) simultaneously. Therefore, we break the fitting process into two stages. At the first stage, we estimate the β vector by averaging 10 random subgroups of approximately 600 facilities each. At the second stage, we then estimate the α_i ($i=1, .., 6000$) by fitting facility-specific intercept-only GEE models, with the linear predictor from the first stage, $\beta'x_{ijm}$, serving as an offset. Per well-established GEE results (e.g., Liang and Zeger, 1986), the estimator of α_i is consistent for its target value, and follows a normal distribution with standard error given by the robust 'sandwich' estimator computed via GEE. We can then compute SFR_i for each facility i as follows:

$$SFR_k = \sum_i\sum_j\sum_m exp(a_k + b'x_{ijm}) / \{1 + exp(a_k + b'x_{ijm})\} / n,$$

where n = total number of patient-months included in the overall study sample.

Type of Score S.16.
Rate/proportion

Interpretation of Score S.17.
Better quality = higher score

Calculation Algorithm/Measure Logic S.18.
See calculation flowchart in Appendix B.

Calculation Algorithm/Measure Logic Diagram URL or Attachment S.19.
See Appendix B.

Sampling S.20.
N/A

Survey/Patient-Reported Data S.21.
N/A

Missing Data S.22.
Patients with a missing vascular access type are included in the denominator, but not the numerator.   For comorbidities, if the patient had missing comorbidity values both in the preceding 12 months of Medicare claims and in the Medical Evidence Form for the corresponding comorbidity, we assume this patient did not have the comorbidity in that reporting month. The same methodology is applied to the comorbidity exclusions and the hospice exclusion.

Data Source S.23.
Administrative Claims
Electronic Clinical Data: Electronic Clinical Data

Data Source or Collection Instrument S.24.
CROWNWeb, Medicare Claims and the CMS Medical Evidence form 2728 are used as the data sources for establishing the denominator. CROWNWeb is the data source for establishing the numerator. Medicare claims and the CMS Medical Evidence form 2728 are data sources for the risk adjustment factors. Medicare claims and CROWNWeb are used for the exclusion criteria.

Data Source or Collection Instrument (Reference) S.25.
N/A

Level of Analysis S.26.
Facility

Care Setting S.27.
Dialysis Facility

Composite Performance Measure S.28.
N/A

Appendix A

Data Dictionary (S.2b.)

Variable	Primary Data Source
Facility CCN #	CMS data sources[1]
Reporting year and month	CROWNWeb
Vascular Access Type	CROWNWeb
Date of Birth	CMS data sources[1]
Date of First ESRD	Medical Evidence Form (CMS-2728)
Age at the first day of reporting month	CMS data sources[1]
BMI at incidence	Medical Evidence Form (CMS-2728)
Nursing home status(in the previous calendar year)	CMS Minimum Data Set
Nephrologist's Care prior to ESRD	Medical Evidence Form (CMS-2728)
Diabetes - Primary cause of ESRD	Medical Evidence Form (CMS-2728)
Diabetes –Not as primary cause of ESRD[5]	Medicare Claims[3] Medical Evidence Form (CMS-2728)
Heart Failure[5]	Medicare Claims[3] Medical Evidence Form (CMS-2728)
Other Heart Diseases[5]	Medicare Claims[3] Medical Evidence Form (CMS-2728)
Peripheral Vascular Disease[5]	Medicare Claims[3] Medical Evidence Form (CMS-2728)
Cerebrovascular Disease[5]	Medicare Claims[3] Medical Evidence Form (CMS-2728)
Chronic Obstructive Pulmonary Disease[5]	Medicare Claims[3] Medical Evidence Form (CMS-2728)
Alcohol/Drug Dependence[5]	Medicare Claims[3,] Medical Evidence Form (CMS-2728)
Inability to ambulate/transfer	Medical Evidence Form (CMS-2728)
GI Tract Bleeding**[5]	Medicare Claims[3]
Anemias (unrelated to ESRD/CKD)[5]	Medicare Claims[3]
Non-Vascular Access-Related Infections: Pneumonias/ Hepatitis/HIV/AIDS/Tuberculosis[5]	Medicare Claims[3]
No Medicare Claims filed in past 12 months	Medicare Claims[3]
Hospice_status in the current month[4]	CMS Hospice file[2]

Variable	Primary Data Source
Metastatic Cancer reported on Medicare Claims in past 12 month [*4]	Medicare Claims[*3]
End-Stage Liver Disease reported on Medicare Claims in past 12 month [*4]	Medicare Claims[*3]
Coma or Anoxic Brain Damage reported on Medicare Claims in past 12 month [*4]	Medicare Claims[*3]

*1. Multiple data sources include CMS Consolidated Renal Operations in a Web-enabled Network (CROWNWeb), the CMS Annual Facility Survey (Form CMS-2744), Medicare dialysis and hospital payment records, the CMS Medical Evidence Form (Form CMS-2728), transplant data from the Organ Procurement and Transplant Network (OPTN), the Death Notification Form (Form CMS-2746), the Nursing Home Minimum Dataset, the Quality Improvement Evaluation System (QIES) Workbench, which includes data from the Certification and Survey Provider Enhanced Report System (CASPER), the Dialysis Facility Compare (DFC) and the Social Security Death Master File.

Unique patients are identified byusing a combination of SSN, first name, surname, gender, Medicare claim number and birth date. A matching process is performed to ensure that minor typos and misspellings do not cause a patient record to fall out of their history. The matching process is able to successfully match 99.5% of patients. The remaining patients have incomplete or incorrect data that does not allow them to be matched.

*2. Hospice information comes from CMS hospice file that contains final action claims submitted by Hospice providers. Once a beneficiary elects Hospice, all Hospice related claims will be found in this file, regardless if the beneficiary is in Medicare fee-for-service or in a Medicare managed care plan.

*3. Medicare claims include Part A claims such as inpatient admissions and Part B claims such as outpatient claims (including dialysis claims) and physician services. Claims from providers, such as laboratories, that report diagnosis codes when testing for the presence of a condition are excluded.

*4. Exclusion factors: A detailed list of ICD-9 diagnostic codes and HCPCS CPT codes used to identify comorbidities is included in Table 3 of the attached document.

*5. Comorbidities were identified by combining prevalent comorbidities reported on all Medicare Claims in past 12 month and incident comorbidities reported on the Medical Evidence Form (CMS-2728)) (Comorbidities listed in Table 2 of the attached file). A detailed list of ICD-9 diagnostic codes and HCPCS CPT codes used to identify comorbidities from Medicare Claims is included in Table1 of the attached document.

Model Coefficients (S.14)

Covariate	Coefficient	P-value
Age		
18-<25	0.022	0.837
25-<59	0.075	0.001
60-<75	reference	
75+	-0.181	0.000
BMI		
underweight(< 18.5)	-0.203	0.001
normal(18.5 - 24.9)	reference	
overweight(>24.9)	0.075	0.001
Nursing home status		
Yes	-0.316	<.0001
No	reference	
Nephrologist's Care prior to ESRD		
Yes	0.263	<.0001
No	reference	
Duration of ESRD		
<1yr	-1.323	<.0001
1-<5yr	reference	
5-<9yr	-0.206	<.0001
9+	-0.570	<.0001
Primary disease > ESRD		
Diabetes	-0.059	0.015
Other	reference	
Comorbidities in both CMS-2728 Form and Medicare Claim		
Diabetes (NOT as primary cause of ESRD)	-0.139	<.0001
Heart Failure	-0.075	0.002
Other Heart Diseases	-0.052	0.018
Peripheral Vascular Disease	-0.326	<.0001
Cerebrovascular Disease	-0.113	<.0001
Chronic Obstructive Pulmonary Disease	-0.094	<.0001
Alcohol/Drug Dependence	-0.111	0.006
Inability to ambulate/transfer	-0.494	<.0001
Anemias (unrelated to ESRD/CKD)	-0.071	0.054

Covariate	Coefficient	P-value
Non-Vascular Access-Related Infections: Pneumonias/ Hepatitis/HIV/AIDS/Tuberculosis	-0.255	<.0001
No Medicare Claims filed in past 12 months	-0.360	<.0001

Exclusion codes (S.11)

Note: ICD-9 to ICD-10 crosswalk is pending clinician review.

ICD-9 Code	Description
1960	Secondary and unspecified malignant neoplasm of lymph nodes of head, face, and neck
1961	Secondary and unspecified malignant neoplasm of intrathoracic lymph nodes
1962	Secondary and unspecified malignant neoplasm of intra-abdominal lymph nodes
1965	Secondary and unspecified malignant neoplasm of lymph nodes of inguinal region and lower limb
1966	Secondary and unspecified malignant neoplasm of intrapelvic lymph nodes
1968	Secondary and unspecified malignant neoplasm of lymph nodes of multiple sites
1970	Secondary malignant neoplasm of lung
1971	Secondary malignant neoplasm of mediastinum
1972	Secondary malignant neoplasm of pleura
1973	Secondary malignant neoplasm of other respiratory organs
1974	Secondary malignant neoplasm of small intestine including duodenum
1975	Secondary malignant neoplasm of large intestine and rectum
1976	Secondary malignant neoplasm of retroperitoneum and peritoneum
1977	Malignant neoplasm of liver, secondary
1978	Secondary malignant neoplasm of other digestive organs and spleen
1978	Secondary malignant neoplasm of other digestive organs and spleen
1980	Secondary malignant neoplasm of kidney
1981	Secondary malignant neoplasm of other urinary organs
1981	Secondary malignant neoplasm of other urinary organs
1983	Secondary malignant neoplasm of brain and spinal cord

ICD-9 Code	Description
1984	Secondary malignant neoplasm of other parts of nervous system
1984	Secondary malignant neoplasm of other parts of nervous system
1985	Secondary malignant neoplasm of bone and bone marrow
1985	Secondary malignant neoplasm of bone and bone marrow
1986	Secondary malignant neoplasm of ovary
1987	Secondary malignant neoplasm of adrenal gland
19889	Secondary malignant neoplasm of other specified sites
1990	Disseminated malignant neoplasm without specification of site
20400	Acute lymphoid leukemia, without mention of having achieved remission
20401	Acute lymphoid leukemia, in remission
20402	Acute lymphoid leukemia, in relapse
20500	Acute myeloid leukemia, without mention of having achieved remission
20500	Acute myeloid leukemia, without mention of having achieved remission
20500	Acute myeloid leukemia, without mention of having achieved remission
20501	Acute myeloid leukemia, in remission
20501	Acute myeloid leukemia, in remission
20501	Acute myeloid leukemia, in remission
20502	Acute myeloid leukemia, in relapse
20502	Acute myeloid leukemia, in relapse
20502	Acute myeloid leukemia, in relapse
20600	Acute monocytic leukemia, without mention of having achieved remission
20601	Acute monocytic leukemia,in remission
20602	Acute monocytic leukemia, in relapse
20700	Acute erythremia and erythroleukemia, without mention of having achieved remission
20701	Acute erythremia and erythroleukemia, in remission

ICD-9 Code	Description
20702	Acute erythremia and erythroleukemia, in relapse
20800	Acute leukemia of unspecified cell type, without mention of having achieved remission
20801	Acute leukemia of unspecified cell type, in remission
20802	Acute leukemia of unspecified cell type, in relapse
20970	Secondary neuroendocrine tumor, unspecified site
20971	Secondary neuroendocrine tumor of distant lymph nodes
20972	Secondary neuroendocrine tumor of liver
20973	Secondary neuroendocrine tumor of bone
20974	Secondary neuroendocrine tumor of peritoneum
20975	Secondary Merkel cell carcinoma
20979	Secondary neuroendocrine tumor of other sites
20979	Secondary neuroendocrine tumor of other sites
3481	Anoxic brain damage
3481	Anoxic brain damage
3484	Compression of brain
3485	Cerebral edema
4560	Esophageal varices with bleeding
4561	Esophageal varices without mention of bleeding
45620	Esophageal varices in diseases classified elsewhere, with bleeding
45621	Esophageal varices in diseases classified elsewhere, without mention of bleeding
5722	Hepatic encephalopathy
5722	Hepatic encephalopathy
5723	Portal hypertension
5724	Hepatorenal syndrome
5728	Other sequelae of chronic liver disease
5728	Other sequelae of chronic liver disease
5735	Hepatopulmonary synd
78001	Coma
78003	Persistent vegetative state

Adjustment codes (S.14)

Note: ICD-9 to ICD-10 crosswalk is pending clinician review.

ICD-9 code	Description
2910	Alcoholic psychoses, alcohol withdrawal delirium
2911	Alcoholic psychoses, alcohol amnestic syndrome
2912	Alcoholic psychoses, other alcohol dementia
2913	Alcoholic psychoses, alcohol withdrawal hallucinosis
2914	Alcoholic psychoses, idiosyncratic alcohol intoxication
2915	Alcoholic psychoses, alcoholic jealousy
2919	Alcoholic psychoses, unspecified alcoholic psychoses
3039	Alcohol dependence syndrome, other and unspecified alcohol dependence
3050	Nondependent abuse of drugs, alcohol abuse
5710	Alcoholic fatty liver
5711	Acute alcoholic hepatitis
5712	Alcoholic cirrhosis of liver
5713	Alcoholic liver damage, unspecified
29181	Alcoholic psychoses, other specified alcohol psychoses, alcohol withdrawal
29189	Alcoholic psychoses, other specified alcohol psychoses, other
30300	Alcohol dependence syndrome, acute alcoholic intoxication, unspecified
30301	Alcohol dependence syndrome, acute alcoholic intoxication, continuous
30302	Alcohol dependence syndrome, acute alcoholic intoxication, episodic
30303	Alcohol dependence syndrome, acute alcoholic intoxication, in remission
30390	Alcohol dependence syndrome, other and unspecified alcohol dependence, unspecified
30391	Alcohol dependence syndrome, other and unspecified alcohol dependence, continuous
30392	Alcohol dependence syndrome, other and unspecified alcohol dependence, episodic
30393	Alcohol dependence syndrome, other and unspecified alcohol dependence, in remission
30500	Nondependent abuse of drugs, alcohol abuse, unspecified
30501	Nondependent abuse of drugs, alcohol abuse, continuous
30502	Nondependent abuse of drugs, alcohol abuse, episodic
30503	Nondependent abuse of drugs, alcohol abuse, in remission
V113	Personal history of mental disorder, alcoholism
282	Hereditary hemolytic anemias
2810	Pernicious anemia
2811	Other vitamin B12 deficiency anemia

ICD-9 code	Description
2812	Folate-deficiency anemia
2813	Other specified megaloblastic anemias not elsewhere classified
2814	Protein-deficiency anemia
2818	Anemia associated with other specified nutritional deficiency
2819	Unspecified deficiency anemia
2820	Hereditary spherocytosis
2821	Hereditary elliptocytosis
2822	Anemias due to disorders of glutathione metabolism
2823	Other hemolytic anemias due to enzyme deficiency
2825	Sickle-cell trait
2827	Other hemoglobinopathies
2828	Other specified hereditary hemolytic anemias
2829	Hereditary hemolytic anemia, unspecified
2830	Autoimmune hemolytic anemias
2832	Hemoglobulinuria due to hemolysis from external causes
2839	Acquired hemolytic anemias, unspecified
2849	Aplastic anemia, unspecified
28241	Sickle-cell thalassemia without crisis
28242	Sickle-cell thalassemia with crisis
28249	Other thalassemias
28260	Sickle-cell disease, unspecified
28261	Sickle-cell disease, Hb-SS disease without crisis
28262	Sickle-cell disease, Hb-SS disease with crisis
28263	Sickle-cell disease, Sickle-cell/Hb-C disease without crisis
28264	Sickle-cell disease, Sickle-cell/Hb-C disease with crisis
28268	Sickle-cell disease, Other sickle-cell disease without crisis
28269	Sickle-cell disease, Other sickle-cell disease with crisis
28310	Non-autoimmune hemolytic anemias, unspecified
28311	Non-autoimmune hemolytic anemias, hemolytic-uremic syndrome
28319	Non-autoimmune hemolytic anemias, other
28401	Constitutional red blood cell aplasia
28409	Other constitutional aplastic anemia
28481	Red cell aplasia (acquired)(adult)(with thymoma)
28489	Other specified aplastic anemias
4275	Cardiac arrest
4260	Conduction disorders, atrioventricular block, complete
4270	Cardiac dysrhythmias, paroxysmal supraventricular tachycardia

ICD-9 code	Description
4271	Cardiac dysrhythmias, paroxysmal ventricular tachycardia
4272	Cardiac dysrhythmias, paroxysmal tachycardia, unspecified
4279	Cardiac dysrhythmia, unspecified
42731	Cardiac dysrhythmias, atrial fibrilation
42732	Cardiac dysrhythmias, atrial flutter
42741	Cardiac dysrhythmias, ventricular fibrillation and flutter, ventricular fibrillation
42742	Cardiac dysrhythmias, ventricular fibrillation and flutter, ventricular flutter
42760	Cardiac dysrhythmias, premature beats, unspecified
42761	Cardiac dysrhythmias, supraventricular premature beats
42769	Cardiac dysrhythmias, premature beats, other
42781	Cardiac dysrhythmias, sinoatrial node dysfunction
42789	Other specified cardiac dysrhythmias, other
430	Subarachnoid hemorrhage
431	Intracerebral hemorrhage
436	Acute, but ill-defined, cerebrovascular disease
4320	Non-traumatic extradural hemorrhage
4321	Subdural hemorrhage
4329	Unspecified intracranial hemorrhage
4350	Transient cerebral ischemia, Basilar artery syndrome
4351	Transient cerebral ischemia, Vertebral artery syndrome
4352	Transient cerebral ischemia, Subclavian steal syndrome
4353	Transient cerebral ischemia, vertebrobasilar artery syndrome
4358	Transient cerebral ischemia, Other specified transient cerebral ischemias
4359	Transient cerebral ischemia, Unspecified transient cerebral ischemias
4370	Cerebral atherosclerosis
4371	Other generalized ischemic cerebrovascular diseases
4372	Hypertensive encephalopathy
4373	Cerebral aneurysm, nonruptured
4374	Cerebral arteritis
4375	Moyamoya disease
4376	Nonpyrogenic thrombosis of intracranial venous sinus
4377	Transient global amnesia
4378	Other cerebrovascular disease
4379	Unspecified cerebrovascular disease
4380	Cognitive deficits
4389	Unspecified late effects of cerebrovascular disease

ICD-9 code	Description
43300	Occlusion and Stenosis of precerebral arteries, Basilar artery, without mention of cerebral infarction
43301	Occlusion and Stenosis of precerebral arteries, Basilar artery, with cerebral infarction
43310	Occlusion and Stenosis of precerebral arteries, Carotid artery, without mention of cerebral infarction
43311	Occlusion and Stenosis of precerebral arteries, Carotid artery, with cerebral infarction
43320	Occlusion and Stenosis of precerebral arteries, Vertebral artery, without mention of cerebral infarction
43321	Occlusion and Stenosis of precerebral arteries, Vertebral artery, with cerebral infarction
43330	Occlusion and Stenosis of precerebral arteries, Multiple and bilateral, without mention of cerebral infarction
43331	Occlusion and Stenosis of precerebral arteries, Multiple and bilateral, with cerebral infarction
43380	Occlusion and Stenosis of precerebral arteries, Other specified precerebral artery, without mention of cerebral infarction
43381	Occlusion and Stenosis of precerebral arteries, Other specified precerebral artery, with cerebral infarction
43390	Occlusion and Stenosis of precerebral arteries, Unspecified precerebral artery, without mention of cerebral infarction
43391	Occlusion and Stenosis of precerebral arteries, Unspecified precerebral artery, with cerebral infarction
43400	Occlusion of cerebral arteries, cerebral thrombosis, without mention of cerebral infarction
43401	Occlusion of cerebral arteries, cerebral thrombosis, with cerebral infarction
43410	Occlusion of cerebral arteries, Cerebral embolism, without mention of cerebral infarction
43411	Occlusion of cerebral arteries, Cerebral embolism, with cerebral infarction
43490	Occlusion of cerebral arteries, Cerebral artery occlusion unspecified, without mention of cerebral infarction
43491	Occlusion of cerebral arteries, Cerebral artery occlusion unspecified, with cerebral infarction
43810	Speech and language deficits, Unspecified
43811	Speech and language deficits, Aphasia
43812	Speech and language deficits, Dysphasia
43819	Speech and language deficits, Other
43820	Hemiplegia affecting unspecified side
43821	Hemiplegia affecting dominant side
43822	Hemiplegia affecting nondominant side
43830	Monoplegia of upper limb affecting unspecified side

ICD-9 code	Description
43831	Monoplegia of upper limb affecting dominant side
43832	Monoplegia of upper limb affecting nondominant side
43840	Monoplegia of lower limb affecting unspecified side
43841	Monoplegia of lower limb affecting dominant side
43842	Monoplegia of lower limb affecting nondominant side
43850	Other paralytic syndrome affecting unspecified side
43851	Other paralytic syndrome affecting dominant side
43852	Other paralytic syndrome affecting nondominant side
43853	Other paralytic syndrome, bilateral
43881	Apraxia
43882	Dysphagia
43883	Other late effects of cerebrovascular diseases, Facial weakness
43884	Other late effects of cerebrovascular diseases, Ataxia
43885	Other late effects of cerebrovascular diseases, Vertigo
43889	Other late effects of cerebrovascular diseases
490	Bronchitis, not specified as acute or chronic
492	Emphysema
496	Chronic airway obstruction, not elsewhere classified
4910	Simple chronic bronchitis
4911	Mucopurulent chronic bronchitis
4918	Other chronic bronchitis
4919	Unspecified chronic bronchitis
4920	Emphysematous bleb
4928	Other emphysema
4940	Bronchiectasis without acute exacerbation
4941	Bronchiectasis with acute exacerbation
5181	Other diseases of lung, interstitial emphysema
5182	Other diseases of lung, compensatory emphysema
49120	Obstructive chronic bronchitis without exacerbation
49121	Obstructive chronic bronchitis with (acute) exacerbation
49122	Chronic bronchitis with acute bronchitis
49300	Asthma, extrinsic asthma, unspecified
49301	Asthma, extrinsic asthma, with status asthmaticus
49302	Asthma, extrinsic asthma, with (acute) exacerbation
49310	Asthma, intrinsic asthma, unspecified
49311	Asthma, intrinsic asthma, with status asthmaticus
49312	Asthma, intrinsic asthma, with (acute) exacerbation

ICD-9 code	Description
49320	Asthma, chronic obstructive asthma, unspecified
49321	Asthma, chronic obstructive asthma, with status asthmaticus
49322	Asthma, chronic obstructive asthma, with (acute) exacerbation
49381	Asthma, other forms of asthma, exercise induced bronchspasm
49382	Asthma, other forms of asthma, cough variant asthma
49390	Asthma, unspecified, unspecified
49391	Asthma, unspecified, with status asthmaticus
49392	Asthma, unspecified, with (acute) exacerbation
4150	Acute pulmonary heart disease, acute cor pulmonale
4160	Chronic pulmonary heart disease, primary pulmonary hypertension
4161	Chronic pulmonary heart disease, Kyphoscoliotic heart disease
4168	Chronic pulmonary heart disease, other chronic pulmonary heart diseases
4169	Chronic pulmonary heart disease, unspecified
4170	Other diseases of pulmonary circulation, arteriovenous fistula of pulmonary vessels
4171	Other diseases of pulmonary circulation, aneurysm of pulmonary artery
4178	Other diseases of pulmonary circulation, other specified disease of pulmonary circulation
4179	Other diseases of pulmonary circulation, Unspecified disease of pulmonary circulation
4250	Endomyocardial fibrosis
4251	Hypertrophic obstructive cardiomyopathies
4252	Obscure cardiomyopathy of Africa
4253	Endocardial fibroelastosis
4254	Other primary cardiomyopathies
4255	Alcoholic cardiomyopathy (I'm using as a diagnosis indicating alcohol dependence)
4257	Nutritional and metabolic cardiomyopathy
4258	Cardiomyopathy in other diseases classified elsewhere
4259	Secondary cardiomyopathy, unspecified
4290	Myocarditis, unspecified
4291	Myocardial degeneration
40201	Hypertensive heart disease, malignant, with heart failure
40211	Hypertensive heart disease, benign, with heart failure
40291	Hypertensive heart disease, unspecified, with heart failure
40401	Hypertensive heart and renal disease, malignant, with heart failure
40403	Hypertensive heart and renal disease, malignant, with heart and renal failure
40411	Hypertensive heart and renal disease, benign, with heart failure

ICD-9 code	Description
40413	Hypertensive heart and renal disease, benign, with heart and renal failure
40491	Hypertensive heart and renal disease, unspecified, with heart failure
40493	Hypertensive heart and renal disease, unspoecified, with heart and renal failure
25000	Diabetes mellitus without mention of complication, type II or unspecified, not stated as uncontrolled
25001	Diabetes mellitus, without mention of complication, Type I not stated as uncontrolled
25002	Diabetes mellitus without mention of complication, type II or unspecified, uncontrolled
25003	Diabetes mellitus, without mention of complication, Type I, uncontrolled
25010	Diabetes mellitus with ketoacidosis, type II or unspecified, not stated as uncontrolled
25011	Diabetes mellitus, diabetes with ketoacidosis, Type I not stated as uncontrolled
25012	Diabetes mellitus with ketoacidosis, type II or unspecified, uncontrolled
25013	Diabetes mellitus, diabetes with ketoacidosis, Type I, uncontrolled
25020	Diabetes mellitus with hyperosmolarity, type II or unspecified, not stated as uncontrolled
25021	Diabetes mellitus, diabetes with hyperosmolarity, Type I not stated as uncontrolled
25022	Diabetes mellitus with hyperosmolarity, type II or unspecified, uncontrolled
25023	Diabetes mellitus, diabetes with hyperosmolarity, Type I, uncontrolled
25030	Diabetes mellitus with other coma, type II or unspecified, not stated as uncontrolled
25031	Diabetes mellitus, diabetes with other coma, Type I not stated as uncontrolled
25032	Diabetes mellitus with other coma, type II or unspecified, uncontrolled
25033	Diabetes mellitus, diabetes with other coma, Type I, uncontrolled
25040	Diabetes mellitus with renal manifestations, type II or unspecified, not stated as uncontrolled
25041	Diabetes mellitus, diabetes with renal manifestations, Type I not stated as uncontrolled
25042	Diabetes mellitus with renal manifestations, type II or unspecified, uncontrolled
25043	Diabetes mellitus, diabetes with renal manifestations, Type I, uncontrolled
25050	Diabetes mellitus with opthalmic manifestations, type II or unspecified, not stated as uncontrolled
25051	Diabetes mellitus, Diabetes with ophthalmic manifestations, Type I not stated as uncontrolled
25052	Diabetes mellitus with opthalmic manifestations, type II or unspecified, uncontrolled

ICD-9 code	Description
25053	Diabetes mellitus, Diabetes with ophthalmic manifestations, Type I, uncontrolled
25060	Diabetes mellitus with neurological manifestations, type II or unspecified, not stated as uncontrolled
25061	Diabetes mellitus, diabetes with neurological manifestations, Type I not stated as uncontrolled
25062	Diabetes mellitus with neurological manifestations, type II or unspecified, uncontrolled
25063	Diabetes mellitus, diabetes with neurological manifestations, Type I, uncontrolled
25070	Diabetes mellitus with peripheral circulatory disorders, type II or unspecified, not stated as uncontrolled
25071	Diabetes mellitus, Diabetes with peripheral circulatory disorders, Type I not stated as uncontrolled
25072	Diabetes mellitus with peripheral circulatory disorders, type II or unspecified, uncontrolled
25073	Diabetes mellitus, Diabetes with peripheral circulatory disorders, Type I, uncontrolled
25080	Diabetes mellitus with other specified manifestations, type II or unspecified, not stated as uncontrolled
25081	Diabetes mellitus, with other specified manifestations, Type I not stated as uncontrolled
25082	Diabetes mellitus with other specified manifestations, type II or unspecified, uncontrolled
25083	Diabetes mellitus, with other specified manifestations, Type I, uncontrolled
25090	Diabetes mellitus with unspecified complication, type II or unspecified, not stated as uncontrolled
25091	Diabetes mellitus, Diabetes with unspecified manifestations, Type I not stated as uncontrolled
25092	Diabetes mellitus with unspecified complication, type II or unspecified, uncontrolled
25093	Diabetes mellitus, Diabetes with unspecified manifestations, Type I, uncontrolled
2920	Drug withdrawal syndrome
2922	Pathological drug intoxication
2929	Unspecified drug-induced mental disorder
29211	Paranoid and/or hallucinatory states induced by drugs, drug-induced organic delusional syndrome
29212	Paranoid and/or hallucinatory states induced by drugs, drug-induced hallucinosis
29281	Other specified drug-induced mental disorders, drug-induced delirium
29282	Other specified drug-induced mental disorders, drug-induced dementia
29283	Other specified drug-induced mental disorders, drug-induced amnestic

ICD-9 code	Description
	syndrome
29284	Other specified drug-induced mental disorders, drug-induced organic affective syndrome
29289	Other specified drug-induced mental disorders, other
30400	Drug dependence, opioid type dependence, unspecified
30401	Drug dependence, opioid type dependence, continuous
30402	Drug dependence, opioid type dependence, episodic
30403	Drug dependence, opioid type dependence, in remission
30410	Drug dependence, barbiturate and similarly acting sedative or hypnotic dependence, unspecified
30411	Drug dependence, barbiturate and similarly acting sedative or hypnotic dependence, continuous
30412	Drug dependence, barbiturate and similarly acting sedative or hypnotic dependence, episodic
30413	Drug dependence, barbiturate and similarly acting sedative or hypnotic dependence, in remission
30420	Drug dependence, cocaine dependence, unspecified
30421	Drug dependence, cocaine dependence, continuous
30422	Drug dependence, cocaine dependence, episodic
30423	Drug dependence, cocaine dependence, in remission
30430	Drug dependence, Cannabis dependence, unspecified
30431	Drug dependence, Cannabis dependence, continuous
30432	Drug dependence, Cannabis dependence, episodic
30433	Drug dependence, Cannabis dependence, in remission
30440	Drug dependence, amphetamine and other psychostimulant dependence, unspecified
30441	Drug dependence, amphetamine and other psychostimulant dependence, continuous
30442	Drug dependence, amphetamine and other psychostimulant dependence, episodic
30443	Drug dependence, amphetamine and other psychostimulant dependence, in remission
30450	Drug dependence, hallucinogen dependence, unspecified
30451	Drug dependence, hallucinogen dependence, continuous
30452	Drug dependence, hallucinogen dependence, episodic
30453	Drug dependence, hallucinogen dependence, in remission
30460	Drug dependence, other specified drug dependence, unspecified
30461	Drug dependence, other specified drug dependence, continuous
30462	Drug dependence, other specified drug dependence, episodic
30463	Drug dependence, other specified drug dependence, in remission

ICD-9 code	Description
30470	Drug dependence, combinations of opioid type drug with any other, unspecified
30471	Drug dependence, combinations of opioid type drug with any other, continuous
30472	Drug dependence, combinations of opioid type drug with any other, episodic
30473	Drug dependence, combinations of opioid type drug with any other, in remission
30480	Drug dependence, combinations of drug dependence excluding opioid type drug, unspecified
30481	Drug dependence, combinations of drug dependence excluding opioid type drug, continuous
30482	Drug dependence, combinations of drug dependence excluding opioid type drug, episodic
30483	Drug dependence, combinations of drug dependence excluding opioid type drug, in remission
30490	Drug dependence, unspecified drug dependence, unspecified
30491	Drug dependence, unspecified drug dependence, continuous
30492	Drug dependence, unspecified drug dependence, episodic
30493	Drug dependence, unspecified drug dependence, in remission
07020	Viral hepatitis B with hepatic coma, acute or unspecified, without hepatitis delta
07021	Viral hepatitis B with hepatic coma, acute or unspecified, with hepatitis delta
07022	Chronic viral hepatitis B with hepatic coma, without hepatitis delta
07023	Chronic viral hepatitis B with hepatic coma, with hepatitis delta
07030	Viral hepatitis B without hepatic coma, acute or unspecified, without hepatitis delta
07031	Viral hepatitis B without hepatic coma, acute or unspecified, with hepatitis delta
07032	Chronic viral hepatitis B without hepatic coma, without hepatitis delta
07033	Chronic viral hepatitis B without hepatic coma, with hepatitis delta
0700	Viral hepatitis A with hepatic coma
0701	Viral hepatitis A without hepatic coma
0706	Unspecified viral hepatitis with hepatic coma
0709	Unspecified viral hepatitis without hepatic coma
07041	Acute hepatitis C with hepatic coma
07042	Hepatitis delta without active hepatitis B disease, with hepatic coma hepatitis delta with hepatitis B carrier state
07043	Hepatitis E with hepatic coma
07044	Chronic hepatitis C with hepatic coma
07049	Other specified viral hepatitis with hepatic coma

ICD-9 code	Description
07051	Acute hepatitis C acute without hepatic coma
07052	Hepatitis delta without active hepatitis B disease or hepatic coma
07053	Hepatitis E without hepatic coma
07054	Chronic hepatitis C without hepatic coma
07059	Other specified viral hepatitis without hepatic coma
07070	Unspecified viral hepatitis C without hepatic coma
07071	Unspecified viral hepatitis C with hepatic coma
042	Human immunodeficience virus with specified conditions, includes acquired immunodeficiency syndrome (AIDS)
07953	Human Immunodeficiency Virus, type 2 [HIV-2]
79571	Nonspecific serological evidence of human immunodeficiency virus [HIV]
V08	Asymptotic human immunodeficiency virus [HIV] infection status
0010	Cholera due to Vibrio cholerae
0011	Cholera due to Vibrio cholerae el tor
0019	Cholera nos
0020	Typhoid fever
0021	Paratyphoid fever A
0022	Paratyphoid fever B
0023	Paratyphoid fever C
024	Glanders
025	Melioidosis
0029	Paratyphoid fever nos
0030	Salmonella enteritis
0031	Salmonella septicemia
035	Erysipelas
037	Tetanus
0038	Salmonella infection nec
0039	Salmonella infection nos
0040	Shigella dysenteriae
0041	Shigella flexneri
0042	Shigella boydii
0043	Shigella sonnei
0048	Shigella infection nec
048	Other enteroviral central nervous system dis
0049	Shigellosis nos
0050	Staphylococcal food poisoning
0051	Botulism

ICD-9 code	Description
0052	Food poison due to Clostridium perfringens
0053	Food poison: Clostridia nec
0054	Food poison: Vibrio parahaemolycitus
0059	Food poisoning nos
0060	Acute amebiasis w/o abscess
0061	Chronic amebiasis w/o abscess
061	Dengue
0062	Amebic nondysenteric colitis
0063	Amebic liver abscess
0064	Amebic lung abscess
064	Viral enceph arthropod nec
0065	Amebic brain abscess
0066	Amebic skin ulceration
0068	Amebic infection nec
0069	Amebiasis nos
0070	Balantidiasis
0071	Giardiasis
071	Rabies
0072	Coccidiosis
0073	Intest trichomoniasis
0074	Cryptosporidiosis
0075	Cyclosporiasis
075	Infectious mononucleosis
0078	Protozoal intestinal disease nec
0079	Protozoal intestinal disease nos
080	Louse-borne typhus
0081	Arizona enteritis
0082	Aerobacter enteritis
0083	Proteus enteritis
0085	Bacterial enteritis nos
0088	Viral enteritis nos
0090	Infectious colitis, enteritis and gastroenteritis nos
0091	Colitis, enteritis and gastroenteritis of infectious origin
0092	Infectious diarrhea nos
0093	Diarrhea of infectious origin
096	Late syphilis latent
101	Vincent's angina

ICD-9 code	Description
118	Opportunistic mycoses
124	Trichinosis
129	Intestinal parasitism nos
0200	Bubonic plague
0201	Cellulocutaneous plague
0202	Septicemic plague
0203	Primary pneumonic plague
0204	Secondary pneumonic plague
0205	Pneumonic plague nos
0208	Other types plague
0209	Plague nos
0210	Ulceroglandular tularemia
0211	Enteric tularemia
0212	Pulmonary tularemia
0213	Oculoglandular tularemia
0218	Tularemia nec
0219	Tularemia nos
0220	Cutaneous anthrax
0221	Pulmonary anthrax
0222	Gastrointestinal anthrax
0223	Anthrax septicemia
0228	Other anthrax manifest
0229	Anthrax nos
0230	Brucella melitensis
0231	Brucella abortus
0232	Brucella suis
0233	Brucella canis
0238	Brucellosis nec
0239	Brucellosis nos
0260	Spirillary fever
0261	Streptobacillary fever
0269	Rat-bite fever nos
0270	Listeriosis
0271	Erysipelothrix infection
0272	Pasteurellosis
0278	Zoonotic bact disease nec
0279	Zoonotic bact disease nos

ICD-9 code	Description
0300	Lepromatous leprosy
0301	Tuberculoid leprosy
0302	Indeterminate leprosy
0303	Borderline leprosy
0308	Leprosy nec
0309	Leprosy nos
0310	Pulmonary mycobacteria
0311	Cutaneous mycobacteria
0312	Disseminated bacteremia
0318	Mycobacterial disease nec
0319	Mycobacterial disease nos
00320	Local Salmonella infect nos
0320	Faucial diphtheria
00321	Salmonella meningitis
0321	Nasopharynx diphtheria
0322	Anterior nasal diphtheria
00323	Salmonella arthritis
0323	Laryngeal diphtheria
00324	Salmonella osteomyelitis
00329	Local Salmonella infection nec
0329	Diphtheria nos
0330	Bordetella pertussis
0331	Bordetella parapertussis
0338	Whooping cough nec
0339	Whooping cough nos
0340	Streptococcal sore throat
0341	Scarlet fever
0360	Meningococcal meningitis
0361	Meningococcal encephalitis
0362	Meningococcemia
0363	Meningococcal adrenal syndrome
0369	Meningococcal infection nos
0390	Cutaneous actinomycosis
0391	Pulmonary actinomycosis
0392	Abdominal actinomycosis
0393	Cervicofacial actinomycosis
0394	Madura foot

ICD-9 code	Description
0398	Actinomycosis nec
0399	Actinomycosis nos
0400	Gas gangrene
0401	Rhinoscleroma
0402	Whipple's disease
0403	Necrobacillosis
0412	Pneumococcus infection nos
0413	Klebsiella infection nos
0414	Escherichia coli infection nos
0415	Hemophilus influenzae infect nos
0416	Proteus infection nos
0417	Pseudomonas infection nos
0419	Bacterial infection nos
0460	Kuru
0462	Subacute sclerosing panencephalitis
0463	Progressive multifocal leukoencephalopathy
0468	Central nervous system slow virus infect nec
0469	Central nervous system slow virus infect nos
0470	Coxsackie virus mening
0471	Echo virus meningitis
0478	Viral meningitis nec
0479	Viral meningitis nos
0490	Lymphocytic choriomeningitis
0491	Adenoviral meningitis
0498	Viral encephalitis nec
0499	Viral encephalitis nos
0500	Variola major
0501	Alastrim
0502	Modified smallpox
0509	Smallpox nos
0511	Pseudocowpox
0512	Contagious pustular dermatitis
0519	Paravaccinia nos
0520	Postvaricella encephalitis
0521	Varicella pneumonitis
0527	Varicella complicated nec
0528	Varicella complicated nos

ICD-9 code	Description
0529	Varicella uncomplicated
0530	Herpes zoster meningitis
0538	Herpes zoster complications nos
0539	Herpes zoster nos
0540	Eczema herpeticum
0542	Herpetic gingivostomatitis
0543	Herpetic encephalitis
0545	Herpetic septicemia
0546	Herpetic whitlow
0548	Herpes simplex complicat nos
0549	Herpes simplex nos
0550	Postmeasles encephalitis
0551	Postmeasles pneumonia
0552	Postmeasles otitis media
0558	Measles complication nos
0559	Measles uncomplicated
0568	Rubella complication nos
0569	Rubella uncomplicated
0570	Erythema infectiosum
0578	Viral exanthemata nec
0579	Viral exanthemata nos
00581	Food poison due to Vibrio vulnificus
00589	Bacterial food poisoning nec
0598	Other poxvirus infections
0599	Poxvirus infections, unspecified
0600	Sylvatic yellow fever
0601	Urban yellow fever
0609	Yellow fever nos
0620	Japanese encephalitis
0621	West equine encephalitis
0622	East equine encephalitis
0623	St. Louis encephalitis
0624	Australian encephalitis
0625	California encephalitis
0628	Mosquito-borne encephalitis nec
0629	Mosquito-borne encephalitis nos
0630	Russia spring-summer encephalitis

ICD-9 code	Description
0631	Louping ill
0632	Central Europe encephalitis
0638	Tick-borne encephalitis nec
0639	Tick-borne encephalitis nos
0650	Crimean hemorrhagic fever
0651	Omsk hemorrhagic fever
0652	Kyasanur forest disease
0653	Tick-borne hemorrhagic fever nec
0654	Mosquito-borne hemorrhagic fever
0658	Arthropod hemorrhagic fever nec
0659	Arthropod hemorrhagic fever nos
0660	Phlebotomus fever
0661	Tick-borne fever
0662	Venezuelan equine fever
0663	Mosquito-borne fever nec
0668	Arthropod virus nec
0669	Arthropod virus nos
0720	Mumps orchitis
0721	Mumps meningitis
0722	Mumps encephalitis
0723	Mumps pancreatitis
0728	Mumps complication nos
0729	Mumps uncomplicated
0730	Ornithosis pneumonia
0737	Ornithosis with complications nec
0738	Ornithosis with complications nos
0739	Ornithosis nos
0740	Herpangina
0741	Epidemic pleurodynia
0743	Hand, foot & mouth disease
0748	Coxsackie virus nec
0760	Trachoma, initial stage
0761	Trachoma, active stage
0769	Trachoma nos
0770	Inclusion conjunctivitis
0771	Epidemic keratoconjunctivitis
0772	Pharyngoconjunctivitis fever

ICD-9 code	Description
0773	Adenoviral conjunctivitis nec
0774	Epidemic hemorrhagic conjunctivitis
0778	Viral conjunctivitis nec
0780	Molluscum contagiosum
0782	Sweating fever
0783	Cat-scratch disease
0784	Foot & mouth disease
0785	Cytomegaloviral disease
0786	Hemorrhagic nephrosonephritis
0787	Arenaviral hemorrhagic fever
0790	Adenovirus infection nos
0791	Echo virus infection nos
0792	Coxsackie virus infection nos
0793	Rhinovirus infection nos
0794	Human papillomavirus
0796	Respiratory syncytial virus
00800	Intest infect E coli nos
00801	Intest infect E coli enteropathogenic
00802	Intest infect E coli enterotoxigenic
00803	Intest infect E coli enteroinvasive
00804	Intest infect E coli enterohemorrhagic
00809	Intest infect E coli spec nec
0810	Murine typhus
0811	Brill's disease
0812	Scrub typhus
0819	Typhus nos
0820	Spotted fevers
0821	Boutonneuse fever
0822	North Asian tick fever
0823	Queensland tick typhus
0828	Tick-borne ricketts nec
0829	Tick-borne ricketts nos
0830	Q fever
0831	Trench fever
0832	Rickettsialpox
0838	Rickettsioses nec
0839	Rickettsiosis nos

ICD-9 code	Description
0840	Falciparum malaria
00841	Staphylococcus enteritis
0841	Vivax malaria
00842	Pseudomonas enteritis
0842	Quartan malaria
00843	Intestinal infection Campylobacter
0843	Ovale malaria
00844	Intestinal infection Yersinia enterocolitica
0844	Malaria nec
00845	Intest infect Clstrdium dfcile
0845	Mixed malaria
00846	Intestinal infection other anaerobes
0846	Malaria nos
00847	Intestinal infection other gram-negative bacteria
0847	Induced malaria
0848	Blackwater fever
00849	Bacterial enteritis nec
0849	Malaria complicated nec
0850	Visceral leishmaniasis
0851	Cutaneous leishmaniasis urban
0852	Cutaneous leishmaniasis Asian
0853	Cutaneous leishmaniasis Ethiopian
0854	Cutaneous leishmaniasis American
0855	Mucocutaneous leishmaniasis (American)
0859	Leishmaniasis nos
0860	Vhagas disease heart
00861	Intestinal infection rotavirus
0861	Chagas disease other organ
00862	Intestinal infection adenovirus
0862	Chagas disease nos
00863	Intestinal infection Norwalk virus
0863	Gambian trypanosomiasis
00864	Intestinal infection other small round viruses
0864	Rhodesian trypanosomas
00865	Intestinal infection Calcivirus
0865	African trypanosoma nos
00866	Intestinal infection Astrovirus

ICD-9 code	Description
00867	Intestinal infection Enterovirus nec
00869	Other viral intestinal infection
0869	Trypanosomiasis nos
0870	Louse-borne relapse fever
0871	Tick-borne relapse fever
0879	Relapsing fever nos
0880	Bartonellosis
0889	Arthropod-borne disease nos
0900	Early cong syph symptom
0901	Early congenital syph latent
0902	Early congenital syph nos
0903	Syphilitic keratitis
0905	Late congenital syphilis symptomatic
0906	Late congenital syphilis latent
0907	Late congenital syphilis nos
0909	Congenital syphilis nos
0910	Primary genital syphilis
0911	Primary anal syphilis
0912	Primary syphilis nec
0913	Secondary syphilis skin
0914	Syphilitic adenopathy
0917	Second syphilis relapse
0919	Secondary syphilis nos
0920	Early syphilis latent relapse
0929	Early syphil latent nos
0930	Aortic aneurysm, syphil
0931	Syphilitic aortitis
0939	Cardiovascular syphilis nos
0940	Tabes dorsalis
0941	General paresis
0942	Syphilitic meningitis
0943	Asymptomatic neurosyphilis
0949	Neurosyphilis nos
0950	Syphilitic episcleritis
0951	Syphilis lung
0952	Syphilitic peritonitis
0953	Syphilis liver

ICD-9 code	Description
0954	Syphilis kidney
0955	Syphilis bone
0956	Syphilis muscle
0957	Syphilis tendon/bursa
0958	Late symptom syphilis nec
0959	Late symptom syphilis nos
0970	Late syphilis nos
0971	Latent syphilis nos
0979	Syphilis nos
0980	Acute gonococcalc infect lower gu
0982	Chronic gonococcal infection lower genitourinary trac
0986	Gonococcal infect pharynx
0987	Gonococcal infection anus & rectum
0990	Chancroid
0991	Lymphogranuloma venereum
0992	Granuloma inguinale
0998	Venereal disease nec
0999	Venereal disease nos
1000	Leptospiros icterohem
1009	Leptospirosis nos
1020	Initial lesions yaws
1021	Multiple papillomata
1022	Early skin yaws nec
1023	Hyperkeratosis yaws
1024	Gummata and ulcers, yaws
1025	Gangosa
1026	Yaws bone & joint
1027	Yaws manifestations nec
1028	Latent yaws
1029	Yaws nos
1030	Pinta primary lesions
1031	Pinta intermed lesions
1032	Pinta late lesions
1033	Pinta mixed lesions
1039	Pinta nos
1040	Nonvenereal endemic syphilis
1048	Spirochetal infection nec

ICD-9 code	Description
1049	Spirochetal infection nos
1110	Pityriasis versicolor
1111	Tinea nigra
1112	Tinea blanca
1113	Black piedra
1118	Dermatomycoses nec
1119	Dermatomycosis nos
1120	Thrush
1121	Candidal vulvovaginitis
1122	Candidias urogenital nec
1123	Cutaneous candidiasis
1124	Candidiasis lung
1125	Disseminated candidiasis
1129	Candidiasis site nos
1140	Primary coccidioidomycosis
1141	Primary cutaneous coccidioidomycosis
1142	Coccidioidal meningitis
1143	Progress coccidioidomycosis nec
1144	Chronic pulmonary coccidioidomycosis
1145	Pumonary cocidioidomycosis nos
1149	Coccidioidomycosis nos
1160	Blastomycosis
1161	Paracoccidioidomycosis
1162	Lobomycosis
1170	Rhinosporidiosis
1171	Sporotrichosis
1172	Chromoblastomycosis
1173	Aspergillosis
1174	Mycotic mycetomas
1175	Cryptococcosis
1176	Allescheriosis
1177	Zygomycosis
1178	Dematiacious fungi infection
1179	Mycoses nec & nos
1200	Schistosoma haematobium
1201	Schistosoma mansoni
1202	Schistosoma japonicum

ICD-9 code	Description
1203	Cutaneous schistosoma
1208	Schistosomiasis nec
1209	Schistosomiasis nos
1210	Opisthorchiasis
1211	Clonorchiasis
1212	Paragonimiasis
1213	Fascioliasis
1214	Fasciolopsiasis
1215	Metagonimiasis
1216	Heterophyiasis
1218	Trematode infection nec
1219	Trematode infection nos
1220	Echinococcosus granulosus liver
1221	Echinococcosus granulosus lung
1222	Echinococcosus granulosus thyroid
1223	Echinococcosus granulosus nec
1224	Echinococcosus granulosus nos
1225	Echinococcosus multilocularis liver
1226	Echinococcosus multilocularis nec
1227	Echinococcosus multilocularis nos
1228	Echinococcosis nos liver
1229	Echinococcosis nec/nos
1230	Taenia solium intestine
1231	Cysticercosis
1232	Taenia saginata infection
1233	Taeniasis nos
1234	Diphyllobothrias intestinal
1235	Sparganosis
1236	Hymenolepiasis
1238	Cestode infection nec
1239	Cestode infection nos
1250	Bancroftian filariasis
1251	Malayan filariasis
1252	Loiasis
1253	Onchocerciasis
1254	Dipetalonemiasis
1255	Mansonella ozzardi infec

ICD-9 code	Description
1256	Filariasis nec
1257	Dracontiasis
1259	Filariasis nos
1260	Ancylostoma duodenale
1261	Necator americanus
1262	Ancylostoma braziliense
1263	Ancylostoma ceylanicum
1268	Ancylostoma nec
1269	Ancylostomiasis nos
1270	Ascariasis
1271	Anisakiasis
1272	Strongyloidiasis
1273	Trichuriasis
1274	Enterobiasis
1275	Capillariasis
1276	Trichostrongyliasis
1277	Intestinal helminthiasis nec
1278	Mixed intestine helminthiasis
1279	Intestinal helminthiasis nos
1280	Toxocariasis
1281	Gnathostomiasis
1288	Helminthiasis nec
1289	Helminthiasis nos
1300	Toxoplasma meningoencephalitis
1301	Toxoplasma conjunctivitis
1302	Toxoplasma chorioretinitis
1303	Toxoplasma myocarditis
1304	Toxoplasma pneumonitis
1305	Toxoplasma hepatitis
1307	Toxoplasmosis site nec
1308	Multisystem toxoplasmosis
1309	Toxoplasmosis nos
1318	Trichomoniasis nec
1319	Trichomoniasis nos
1320	Pediculus capitis
1321	Pediculus corporis
1322	Phthirus pubis

ICD-9 code	Description
1323	Mixed pediculus & phthirus infestation
1329	Pediculosis nos
1330	Scabies
1338	Acariasis nec
1339	Acariasis nos
1340	Myiasis
1341	Arthropod infestation nec
1342	Hirudiniasis
1348	Infestation nec
1349	Infestation nos
1360	Ainhum
1363	Pneumocystosis
1364	Psorospermiasis
1365	Sarcosporidiosis
1368	Infectious/parasitic disease nec
1369	Infectious/parasitic disease nos
1370	Late effect tuberculosis, respiratory or nos
1371	Late effect central nervous system tuberculosis
1372	Late effect genitourinary tuberculosis
1373	Late effect bone & joint tuberculosis
1374	Late effect tuberculosis nec
1390	Late effect viral encephalitis
1391	Late effect trachoma
03281	Conjunctival diphtheria
03282	Diphtheritic myocarditis
03283	Diphtheritic peritonitis
03284	Diphtheritic cystitis
03285	Cutaneous diphtheria
03289	Diphtheria nec
03640	Meningococc carditis nos
03641	Meningococc pericarditis
03642	Meningococc endocarditis
03643	Meningococc myocarditis
03681	Meningococcal optic neuritis
03682	Meningococcal arthropathy
03689	Meningococcal infection nec
04081	Tropical pyomyositis

ICD-9 code	Description
04082	Toxic shock syndrome
04089	Bacterial diseases nec
04100	Streptococcus unspecified
04101	Streptococcus group A
04102	Streptococcus group B
04103	Streptococcus group C
04104	Enterococcus group D
04105	Streptococcus group G
04109	Other streptococcus
04110	Staphylococcus unspecified
04111	Staphylococcus aureus
04119	Other staphylococcus
04181	Mycoplasma
04182	Bacillus fragilis
04183	Clostridium perfringens
04184	Other anaerobes
04185	Other gram negative bacteria
04186	Helicobacter pylori
04189	Other specified bacteria
04500	Acute bulbar polio-type nos
04501	Acute bulbar polio-type 1
04502	Acute bulbar polio-type 2
04503	Acute bulbar polio-type 3
04510	Paralytic polio nec-type nos
04511	Paralytic polio nec-type 1
04512	Paralytic polio nec-type 2
04513	Paralytic polio nec-type 3
04520	Nonparalytic polio-type nos
04521	Nonparalytic polio-type 1
04522	Nonparalytic polio-type 2
04523	Nonparalytic polio-type 3
04590	Acute polio nos-type nos
04591	Acute polio nos-type 1
04592	Acute polio nos-type 2
04593	Acute polio nos-type 3
04611	Variant Creutzfeldt-Jakob disease
04619	Other and unspecified Creutzfeldt-Jakob disease

ICD-9 code	Description
05101	Cowpox
05102	Vaccinia not from vaccination
05310	Herpes zoster nerve syst nos
05311	Geniculate herpes zoster
05312	Postherpes trigeminal neuralgia
05313	Postherpes polyneuropathy
05319	Herpes zoster nerve system nec
05320	Herpes zoster eyelid
05321	Herpes zoster keratoconjunctivitis
05322	Herpes zoster iridocyclitis
05329	Herpes zoster eye nec
05371	Herpes zoster otitis externa
05379	Herpes zoster complications nec
05410	Genital herpes nos
05411	Herpetic vulvovaginitis
05412	Herpetic ulcer vulva
05413	Herpetic infect penis
05419	Genital herpes nec
05440	Herpes simplex eye nos
05441	Herpes simplex eyelid
05442	Dendritic keratitis
05443	Herpes simplex keratitis
05444	Herpes simplex iridocyclitis
05449	Herpes simplex eye nec
05471	Visceral herpes simplex
05472	Herpes simplex meningitis
05473	Herpes simplex otitis externa
05479	Herpes simplex complicat nec
05571	Measles keratitis
05579	Measles complication nec
05600	Rubella nerve complication nos
05601	Rubella encephalitis
05609	Rubella nerve comp nec
05671	Srthritis due to rubella
05679	Rubella complication nec
05811	Roseola infantum due to human herpesvirus 6
05812	Roseola infantum due to human herpesvirus 7

ICD-9 code	Description
05821	Human herpesvirus 6 encephalitis
05829	Other human herpesvirus encephalitis
05881	Human herpesvirus 6 infection
05882	Human herpesvirus 7 infection
05889	Other human herpesvirus infection
05901	Monkeypox
05909	Other orthopoxvirus infections
05911	Bovine stomatitis
05912	Sealpox
05919	Other parapoxvirus infections
05920	Yatapoxvirus infection, unspecified
05921	Tanapox
05922	Yaba monkey tumor virus
07271	Mumps hepatitis
07272	Mumps polyneuropathy
07279	Mumps complication nec
07420	Coxsackie carditis nos
07421	Coxsackie pericarditis
07422	Coxsackie endocarditis
07423	Coxsackie myocarditis
07798	Unspecified disease of conjucunctiva due to Chlamydia
07799	Unspecified disease of conjuctiva due to viruses
07810	Viral warts nos
07811	Condyloma acuminatum
07819	Other specified viral warts
07881	Epidemic vertigo
07882	Epidemic vomiting syndrome
07888	Other specified disease due to chlamydiae
07889	Other specified disease due to viruses
07950	Retrovirus, unspecifiedified
07951	Human T-cell lymphotropic virus type-1 infection other dis
07952	Human T-cell lymphotropic virus type-ii infection other dis
07959	Other specified retrovirus
07981	Hantavirus infection
07982	SARS-associated coronavirus
07988	Other specified chlamydial infections
07989	Other specified viral infection

ICD-9 code	Description
07998	Chlamydial infection nos
07999	Viral infection nos
08240	Ehrlichiosis nos
08241	Ehrlichiosis chafeensis
08249	Ehrlichiosis nec
08881	Lyme disease
08882	Babesiosis
08889	Other arthropod-borne dis
09040	Juvenile neurosyphilis nos
09041	Congenital syphilitic encephalitis
09042	Congenital syphilitic meningitis
09049	Juvenile neurosyph nec
09150	Syphilitic uveitis nos
09151	Syphilitic chorioretinitis
09152	Syphilitic iridocyclitis
09161	Syphilitic periostitis
09162	Syphilitic hepatitis
09169	Second syphilis viscera nec
09181	Acute syphil meningitis
09182	Syphilitic alopecia
09189	Secondary syphilis nec
09320	Syphilitic endocarditis nos
09321	Syphilitic mitral valve
09322	Syphilitic aortic valve
09323	Syphilitic tricuspid valve
09324	Syphilitic pulmonary valve
09381	Syphilitic pericarditis
09382	Syphilitic myocarditis
09389	Cardiovascular syphilis nec
09481	Syphilitic encephalitis
09482	Syphilitic parkinsonism
09483	Sypilitich disseminated retinitis
09484	Syphilitic optic atrophy
09485	Syphilitic retrobulbar neuritis
09486	Syphilitic acoustic neuritis
09487	Syphilitic ruptured cerebral aneurysm
09489	Neurosyphilis nec

ICD-9 code	Description
09810	Gonococcal (acute) upper gu nos
09811	Gonococcal cystitis (acute)
09812	Gonococcal prostatitis (acute)
09813	Gonococcal orchitis (acute)
09814	Gonococcal seminal vesiculitis (acute)
09815	Gonococcal cervicitis (acute)
09816	Gonococcal endometritis (acute)
09817	Acute gonococcal salpingitis
09819	Gonococcal (acute) upper genitourinary tract nec
09830	Chronic gonococcal upper genitourinary trac nos
09831	Gonococcal cystitis, chronic
09832	Gonococcal prostatitis, chronic
09833	Gonococcal orchitis, chronic
09834	Gonococcal seminal vesiculitis, chr
09835	Gonococcal cervicitis, chronic
09836	Gonococcal endometritis, chronic
09837	Gonococcal salpingitis (chronic)
09839	Chronic gonococcal upper genitourinary tract nec
09840	Gonococcal conjunctivit
09841	Gonococcal iridocyclitis
09842	Gonococcal endophthalmia
09843	Gonococcal keratitis
09849	Gonococcal eye nec
09850	Gonococcal arthritis
09851	Gonococcal synovitis
09852	Gonococcal bursitis
09853	Gonococcal spondylitis
09859	Gonococcal infection joint nec
09881	Gonococcal keratosis
09882	Gonococcal meningitis
09883	Gonococcal pericarditis
09884	Gonococcal endocarditis
09885	Gonococcal heart disease nec
09886	Gonococcal peritonitis
09889	Gonococcal infection site nec
09940	Unspecified nongonococcal urethritis
09941	Vhlamydial trachomatis urethritis

ICD-9 code	Description
09949	Nongonococcal urthritis due to other specified organism
09950	Other venereal disease Chlamydia trachomatis unspecified site
09951	Other venereal disease Chlamydia trachomatis pharynx
09952	Other venereal disease Chlamydia trachomatis anus & rectum
09953	Other venereal disease Chlamydia trachomatis lower genitourinary tract
09954	Other venereal disease Chlamydia trachomatis other genitourinary tract
09955	Other venereal disease Chlamydia trachomatis unspecified genitourinary tract
09956	Other venereal disease Chlamydia trachomatis prtoneum
09959	Other venereal disease Chlamydia trachomatis specified site
10081	Leptospiral meningitis
10089	Leptospiral infect nec
11282	Candidal otitis externa
11283	Candidal meningitis
11284	Candidal esophagitis
11285	Candidal enteritis
11289	Candidiasis site nec
11500	Histoplasma capsulatum nos
11501	Histoplasma capsulatum meningitis
11502	Histoplasma capsulatum retinitis
11503	Histoplasma capsulatum pericarditis
11504	Histoplasma capsulatum endocarditis
11505	Histoplasma capsulatum pneumonia
11509	Histoplasma capsulatum nec
11510	Histoplasma duboisii nos
11511	Histoplasm duboisii meningitis
11512	Histoplasm duboisii retinitis
11513	Histoplasm duboisii pericarditis
11514	Histoplasm duboisii endocarditis
11515	Histoplasm duboisii pneumonia
11519	Histoplasma duboisii nec
11590	Histoplasmosis nos
11591	Histoplasmosis meningitis
11592	Histoplasmosis retinitis
11593	Histoplasmosis pericarditis
11594	Histoplasmosis endocarditis
11595	Histoplasmosis pneumonia

ICD-9 code	Description
11599	Histoplasmosis nec
13100	Urogenital trichomoniasis nos
13101	Trichomonal vaginitis
13102	Trichomonal urethritis
13103	Trichomonal prostatitis
13109	Urogenital trichomoniasis nec
13621	Specific infection due to acanthamoeba
13629	Other specific infections by free-living amebae
412	Old myocardial infarction
4110	Postmyocardial infarction syndrome
4111	Intermediate coronary syndrome
4130	Angina decubitus
4131	Prinzmetal angina
4139	Other and unspecified angina pectoris
4142	Chronic total occlusion of coronary artery
4143	Coronary atherosclerosis due to lipid rich plaque
4148	Other specified forms of chronic ischemic heart disease
4149	Chronic ischemic heart disease, unspecified
41181	Acute coronary occlusion without myocardial infarction
41189	Other ischemic heart disease
41400	Coronary atherosclerosis, of unspecified type of vessel, native or graft
41401	Coronary atherosclerosis, of native coronary artery
41402	Coronary atherosclerosis, of autologous vein bypass graft
41403	Coronary atherosclerosis, of nonautologous biological bypass graft
41404	Coronary atherosclerosis, of artery bypass graft
41405	Coronary atherosclerosis, of unspecified type of bypass graft
41406	Coronary atherosclerosis, of native coronary artery of transplanted heart
41407	Coronary atherosclerosis, of bypass graft (artery) (vein) of transplanted heart
7280	Infective myositis
71100	Pyogenic arthritis site unspecified
71101	Pyogenic arthritis involving shoulder region
71102	Pyogenic arthritis involving upper arm
71103	Pyogenic arthritis involving forearm
71104	Pyogenic arthritis involving hand
71105	Pyogenic arthritis involving pelvic region and thigh
71106	Pyogenic arthritis involving lower leg

ICD-9 code	Description
71107	Pyogenic arthritis involving ankle and foot
71108	Pyogenic arthritis involving other specified sites
71109	Pyogenic arthritis involving multiple sites
71190	Unspecified infective arthritis site unspecified
71191	Unspecified infective arthritis involving shoulder region
71192	Unspecified infective arthritis involving upper arm
71193	Unspecified infective arthritis involving forearm
71194	Unspecified infective arthritis involving hand
71195	Unspecified infective arthritis involving pelvic region and thigh
71196	Unspecified infective arthritis involving lower leg
71197	Unspecified infective arthritis involving ankle and foot
71198	Unspecified infective arthritis involving other specified sites
71199	Unspecified infective arthritis involving multiple sites
99661	Infection and inflammatory reaction due to cardiac device implant and graft
99663	Infection and inflammatory reaction due to nervous system device implant and graft
99664	Infection and inflammatory reaction due to indwelling urinary catheter
99665	Infection and inflammatory reaction due to other genitourinary device implant and graft
99666	Infection and inflammatory reaction due to internal joint prosthesis
99667	Infection and inflammatory reaction due to other internal orthopedic device implant and graft
99669	Infection and inflammatory reaction due to other internal prosthetic device implant and graft
41000	Acute myocardial infarction, of anterolateral wall, episode of care unspecified
41001	Acute myocardial infarction, of anterolateral wall, initial episode of care
41002	Acute myocardial infarction, of anterolateral wall, subsequent episode of care
41010	Acute myocardial infarction, of other anterior wall, episode of care unspecified
41011	Acute myocardial infarction, of other anterior wall, initial episode of care
41012	Acute myocardial infarction, of other anterior wall, subsequent episode of care
41020	Acute myocardial infarction, of inferolateral wall, episode of care unspecified
41021	Acute myocardial infarction, of inferolateral wall, initial episode of care
41022	Acute myocardial infarction, of inferolateral wall, subsequent episode of care
41030	Acute myocardial infarction, of inferoposterior wall, episode of care

ICD-9 code	Description
	unspecified
41031	Acute myocardial infarction, of inferoposterior wall, initial episode of care
41032	Acute myocardial infarction, of inferoposterior wall, subsequent episode of care
41040	Acute myocardial infarction, of other inferior wall, episode of care unspecified
41041	Acute myocardial infarction, of other inferior wall, initial episode of care
41042	Acute myocardial infarction, of other inferior wall, subsequent episode of care
41050	Acute myocardial infarction, of other lateral wall, episode of care unspecified
41051	Acute myocardial infarction, of other lateral wall, initial episode of care
41052	Acute myocardial infarction, of other lateral wall, subsequent episode of care
41060	Acute myocardial infarction, true posterior wall infarction, episode of care unspecified
41061	Acute myocardial infarction, true posterior wall infarction, initial episode of care
41062	Acute myocardial infarction, true posterior wall infarction, subsequent episode of care
41070	Acute myocardial infarction, subendocardial infarction, episode of care unspecified
41071	Acute myocardial infarction, subendocardial infarction, initial episode of care
41072	Acute myocardial infarction, subendocardial infarction, subsequent episode of care
41080	Acute myocardial infarction, of other specified sites, episode of care unspecified
41081	Acute myocardial infarction, of other specified sites, initial episode of care
41082	Acute myocardial infarction, of other specified sites, subsequent episode of care
41090	Acute myocardial infarction, Unspecified site, episode of care unspecified
41091	Acute myocardial infarction, Unspecified site, initial episode of care
41092	Acute myocardial infarction, Unspecified site, subsequent episode of care
4400	Atherosclerosis of aorta
4401	Atherosclerosis of renal artery
4404	Chronic total occlusion of artery of the extremities
4411	Thoracic aneurysm, ruptured
4412	Thoracic aneurysm without mention of rupture
4413	Abdominal aneurysm, ruptured
4414	Abdominal aneurysm without mention of rupture
4415	Aortic aneurysm of lunspecified site, ruptured

ICD-9 code	Description
4416	Thoracoabdominal aneurysm, ruptured
4417	Thoracoabdominal aneurysm without mention of rupture
4419	Aortic aneurysm and dissection of unspecified site without mention of rupture
4420	Other aneurysm of artery of upper extremity
4421	Other aneurysm of renal artery
4422	Other aneurysm of iliac artery
4423	Other aneurysm of artery of lower extremity
4429	Other aneurysm of unspecified site
4430	Other peripheral vascular disease, Raynaud's syndrome
4431	Other peripheral vascular disease, thromboangiitis obliterans [Buerger's disease]
4439	Peripheral vascular disease, unspecified
4440	Arterial embolism and thrombosis, of abdominal aorta
4441	Arterial embolism and thrombosis, of thoracic aorta
4449	Arterial embolism and thrombosis, of unspecified artery
4460	Polyarteritis nodosa and allied conditions, polyarteritis nodosa
4510	Phlebitis and thrombophlebitis of superficial vessels of lower extremities
4512	Phlebitis and thrombophlebitis, of lower extremities, unspecified
4519	Phlebitis and thrombophlebitis, unspecified
4530	Other venous embolism and thrombosis, Budd-Chiari syndrome
4531	Other venous embolism and thrombosis, Thrombophlebitis migrans
4532	Other venous embolism and thrombosis of vena cava
4533	Other venous embolism and thrombosis of renal vein
4538	Other venous embolism and thrombosis of other specified sites
4539	Other venous embolism and thrombosis of unspecified site
41511	Pulmonary embolism and infarction, iatrogenic pulmonary embolism and infarction
44020	Atherosclerosis of native arteries of the extremities, unspecified
44021	Atherosclerosis of native arteries of the extremities, with intermittent claudication
44022	Atherosclerosis of native arteries of the extremities, with rest pain
44023	Atherosclerosis of the extremities with ulceration
44024	Atherosclerosis of the extremities with gangrene
44029	Atherosclerosis of native arteries of the extremities, with ulceration
44030	Atherosclerosis of bypass graft of the extremities of unspecified graft
44031	Atherosclerosis of bypass graft of the extremities of autologous vein bypass graft
44032	Atherosclerosis of bypass graft of the extremities of nonautologous

ICD-9 code	Description
	biological bypass graft
44100	Aortic aneurysm and dissection, dissection of aorta, unspecified site
44101	Aortic aneurysm and dissection, dissection of aorta, thoracic
44102	Aortic aneurysm and dissection, dissection of aorta, abdominal
44103	Aortic aneurysm and dissection, dissection of aorta, thoracoabdominal
44281	Other aneurysm of other specified artery, artery of neck
44282	Other aneurysm of other specified artery, subclavian artery
44283	Other aneurysm of other specified artery, splenic artery
44284	Other aneurysm of other specified artery, other visceral artery
44289	Other aneurysm of other specified artery, other
44321	Other peripherovascular diseases, other arterial dissection, dissection of carotid artery
44322	Other peripherovascular diseases, other arterial dissection, dissection of iliac artery
44323	Other peripherovascular diseases, other arterial dissection, dissection of renal artery
44324	Other peripherovascular diseases, other arterial dissection, dissection of vertebral artery
44329	Other peripherovascular diseases, other arterial dissection, dissection of other artery
44381	Other peripheral vascular disease, other specified peripheral vascular disease, peripheral angiopathy in diseases classified elsewhere
44389	Other peripheral vascular disease, other specified peripheral vascular disease, other
44421	Arterial embolism and thrombosis, of arteries of the extremities, upper extremity
44422	Arterial embolism and thrombosis, of arteries of the extremities, lower extremity
44481	Arterial embolism and thrombosis, of other specified artery, upper extremity
44489	Arterial embolism and thrombosis, of other specified artery, lower extremity
44501	Atheroembolism, of extremities, upper extremity
44502	Atheroembolism, of extremities, lower extremity
45111	Phlebitis and thrombophlebitis, of deep vessels of lower extermities, femoral vein
45119	Phlebitis and thrombophlebitis, of deep vessels of lower extermities, other
45181	Phlebitis and thrombophlebitis, of other, sites iliac vein
45182	Phlebitis and thrombophlebitis, of other sites, of superficial veins of upper extremities
45183	Phlebitis and thrombophlebitis, of other sites, of deep veins of upper extremities

ICD-9 code	Description
45184	Phlebitis and thrombophlebitis, of upper extremities, unspecified
45189	Phlebitis and thrombophlebitis, other
00322	Salmonella pneumonia
4820	Pneumonia due to Klebsiella pneumnoniae
4821	Pneumonia due to Pseudomonas
4846	Pneumonia in aspergillosis
4847	Pneumonia in other systemic mycoses
5070	Pneumonitis due to inhalation of food or vomitus
5078	Pneumonitis due to other solids and liquids
5100	Empyema, with fistula
5109	Empyema, without mention of fistula
5130	Abscess of lung
5131	Abscess of mediastinum
48230	Pneumonia due to Streptococcus, unspecified
48231	Pneumonia due to Streptococcus, Group A
48232	Pneumonia due to Streptococcus, Group B
48239	Pneumonia due to Streptococcus, other Streptococcus
48240	Pneumonia due to Staphylococcus, unspecified
48241	Pneumonia due to Staphylococcus aureus
48242	Methicillin resistant pneumonia due to Staphylococcus aureus
48249	Pneumonia due to other Staphylococcus pneumonia
48281	Pneumonia due to Anaerobes
48282	Pneumonia due to Escherichia coli (E. coli)
48283	Pneumonia due to other gram-negative bacteria
48284	Legionnaires' disease
48289	Pneumonia due to other specified bacteria
01000	Primary tuberculosis complex-unspecified
01001	Primary tuberculosis complex-no examination
01002	Primary tuberculosis complex-exam unknown
01003	Primary tuberculosis complex-Microscopy diagnosis
01004	Primary tuberculosis complex-Culture diagnosis
01005	Primary tuberculosis complex-histological diagnosis
01006	Primary tuberculosis complex-other test
01010	Primary tuberculosis pleurisy-unspecified
01011	Primary tuberculosis pleurisy-no examination
01012	Primary tuberculosis pleur-examination unknown
01013	Primary tuberculosis pleurisy-Microscopy diagnosis

ICD-9 code	Description
01014	Primary tuberculosis pleurisy-Culture diagnosis
01015	Primary tuberculosis pleurisy-histological diagnosis
01016	Primary tuberculosis pleurisy-other test (inoculation of animals)
01080	Primary progressive tuberculosis nec-unspecified
01081	Primary progressive tuberculosis nec-no examination
01082	Primary progressive tuberculosis nec-examination unknown
01083	Primary progressive tuberculosis nec-Microscopy diagnosis
01084	Primary progressive tuberculosis nec-Culture diagnosis
01085	Primary progressive tuberculosis nec-histological diagnosis
01086	Primary progressive tuberculosis nec-other test (inoculation of animals)
01090	Primary tuberculosis nos-unspecified
01091	Primary tuberculosis nos-no examination
01092	Primary tuberculosis nos-examination unknown
01093	Primary tuberculosis nos-Microscopy diagnosis
01094	Primary tuberculosis nos-Culture diagnosis
01095	Primary tuberculosis nos-histological diagnosis
01096	Primary tuberculosis nos-other test (inoculation of animals)
01100	Tuberculosis lung infiltrative-unspecified
01101	Tuberculosis lung infiltrative-no examination
01102	Tuberculosis lung infiltrative-examination unknown
01103	Tuberculosis lung infiltrative-Microscopy diagnosis
01104	Tuberculosis lung infiltrative-Culture diagnosis
01105	Tuberculosis lung infiltrative-histological diagnosis
01106	Tuberculosis lung infiltrative-other test (inoculation of animals)
01110	Tuberculosis lung nodular-unspecified
01111	Tuberculosis lung nodular-no examination
01112	Tuberculosis lung nodul-examination unknown
01113	Tuberculosis lung nodular-Microscopy diagnosis
01114	Tuberculosis lung nodular-Culture diagnosis
01115	Tuberculosis lung nodular-histological diagnosis
01116	Tuberculosis lung nodular-other test (inoculation of animals)
01120	Tuberculosis lung with cavity-unspecified
01121	Tuberculosis lung with cavity-no examination
01122	Tuberculosis lung cavity-examination unknown
01123	Tuberculosis lung with cavity-Microscopy diagnosis
01124	Tuberculosis lung with cavity-Culture diagnosis
01125	Tuberculosis lung with cavity-histological diagnosis

ICD-9 code	Description
01126	Tuberculosis lung with cavity-other test (inoculation of animals)
01130	Tuberculosis bronchus-unspecified
01131	Tuberculosis bronchus-no examination
01132	Tuberculosis bronchus-examination unknown
01133	Tuberculosis bronchus-Microscopy diagnosis
01134	Tuberculosis bronchus-Culture diagnosis
01135	Tuberculosis bronchus-histological diagnosis
01136	Tuberculosis bronchus-other test (inoculation of animals)
01140	Tuberculous lung fibrosis-unspecified
01141	Tuberculous lung fibrosis-no examination
01142	Tuberculous lung fibrosa-examination unknown
01143	Tuberculous lung fibrosa-Microscopy diagnosis
01144	Tuberculous lung fibrosis-Culture diagnosis
01145	Tuberculous lung fibrosa-histological diagnosis
01146	Tuberculous lung fibrosa-other test (inoculation of animals)
01150	Tuberculous bronchiectasis-unspecified
01151	Tuberculous bronchiectasis-no examination
01152	Tuberculous bronchiectasis-examination unknown
01153	Tuberculous bronchiectasis-Microscopy diagnosis
01154	Tuberculous bronchiectasis-Culture diagnosis
01155	Tuberculous bronchiectasis-histological diagnosis
01156	Tuberculosis bronchiectasis-other test (inoculation of animals)
01160	Tuberculous pneumonia-unspecified
01161	Tuberculous pneumonia-no examination
01162	Tuberculous pneumonia-examination unknown
01163	Tuberculous pneumonia-Microscopy diagnosis
01164	Tuberculous pneumonia-Culture diagnosis
01165	Tuberculous pneumonia-histological diagnosis
01166	Tuberculous pneumonia-other test (inoculation of animals)
01170	Tuberculous pneumothorax-unspecified
01171	Tuberculous pneumothorax-no examination
01172	Tuberculous pneumothorax-examination unknown
01173	Tuberculous pneumothorax-Microscopy diagnosis
01174	Tuberculous pneumothorax-Culture diagnosis
01175	Tuberculous pneumothorax-histological diagnosis
01176	Tuberculous pneumothorax-other test (inoculation of animals)
01180	Pulmonary tuberculosis nec-unspecified

ICD-9 code	Description
01181	Pulmonary tuberculosis nec-no examination
01182	Pulmonary tuberculosis nec-examination unknown
01183	Pulmonary tuberculosis nec-Microscopy diagnosis
01184	Pulmonary tuberculosis nec-Culture diagnosis
01185	Pulmonary tuberculosis nec-histological diagnosis
01186	Pulmonary tuberculosis nec-other test (inoculation of animals)
01190	Pulmonary tuberculosis nos-unspecified
01191	Pulmonary tuberculosis nos-no examination
01192	Pulmonary tuberculosis nos-examination unknown
01193	Pulmonary tuberculosis nos-Microscopy diagnosis
01194	Pulmonary tuberculosis nos-Culture diagnosis
01195	Pulmonary tuberculosis nos-histological diagnosis
01196	Pulmonary tuberculosis nos-other test (inoculation of animals)
01200	Tuberculous pleurisy-unspecified
01201	Tuberculous pleurisy-no examination
01202	Tuberculous pleurisy-examination unknown
01203	Tuberculous pleurisy-Microscopy diagnosis
01204	Tuberculous pleurisy-Culture diagnosis
01205	Tuberculous pleurisy-histology dx
01206	Tuberculous pleurisy-other test (inoculation of animals)
01210	Tuberculous thoracic nodes-unspecified
01211	Tuberculous thorax node-no examination
01212	Tuberculous thorax node-examination unknown
01213	Tuberculous thorax node-Microscopy diagnosis
01214	Tuberculous thorax node-Culture diagnosis
01215	Tuberculous thorax node-histological diagnosis
01216	Tuberculosis thorax node-other test (inoculation of animals)
01220	Isolated tracheal/bronchial tuberculosis-unspecified
01221	Isolated tracheal/bronchial tuberculosis-no examination
01222	Isolated tracheal/bronchial tuberculosis-examination unknown
01223	Isolated tracheal/bronchial tuberculosis-Microscopy diagnosis
01224	Isolated tracheal/bronchial tuberculosis-Culture diagnosis
01225	Isolated tracheal/bronchial tuberculosis-histological diagnosis
01226	Isolated tracheal/bronchial tuberculosis-other test (inoculation of animals)
01230	Tuberculous laryngitis-unspecified
01231	Tuberculous laryngitis-no examination
01232	Tuberculous laryngitis-examination unknown

ICD-9 code	Description
01233	Tuberculous laryngitis-Microscopy diagnosis
01234	Tuberculous laryngitis-Culture diagnosis
01235	Tuberculous laryngitis-histological diagnosis
01236	Tuberculous laryngitis-other test (inoculation of animals)
01280	Resp tuberculosis nec-unspecified
01281	Resp tuberculosis nec-no examination
01282	Resp tuberculosis nec-examination unknown
01283	Resp tuberculosis nec-Microscopy diagnosis
01284	Resp tuberculosis nec-Culture diagnosis
01285	Resp tuberculosis nec-histological diagnosis
01286	Resp tuberculosis nec-other test (inoculation of animals)
01300	Tuberculous meningitis-unspecified
01301	Tuberculous meningitis-no examination
01302	Tuberculous meningitis-examination unknown
01303	Tuberculous meningitis-Microscopy diagnosis
01304	Tuberculous meningitis-Culture diagnosis
01305	Tuberculous meningitis-histological diagnosis
01306	Tuberculous meningitis-other test (inoculation of animals)
01310	Tuberculoma meninges-unspecified
01311	Tuberculoma mening-no examination
01312	Tuberculoma menin-examination unknown
01313	Tuberculoma mening-Microscopy diagnosis
01314	Tuberculoma mening-Culture diagnosis
01315	Tuberculoma mening-histological diagnosis
01316	Tuberculoma mening-other test (inoculation of animals)
01320	Tuberculoma brain-unspecified
01321	Tubrcloma brain-no examination
01322	Tuberculoma brain-examination unknown
01323	Tubrcloma brain-Microscopy diagnosis
01324	Tubrcloma brain-Culture diagnosis
01325	Tubrcloma brain-histological diagnosis
01326	Tubrcloma brain-other test (inoculation of animals)
01330	Tuberculous brain abscess-unspecified
01331	Tuberculous brain abscess-no examination
01332	Tuberculous brain abscess-examination unknown
01333	Tuberculous brain abscess-Microscopy diagnosis
01334	Tuberculous brain abscess-Culture diagnosis

ICD-9 code	Description
01335	Tuberculous brain abscess-histological diagnosis
01336	Tuberculous brain abscess-other test (inoculation of animals)
01340	Tuberculoma spinal cord-unspecified
01341	Tuberculoma spinal cord-no examination
01342	Tuberculoma spinal cord-examination unknown
01343	Tuberculoma spinal cord-Microscopy diagnosis
01344	Tuberculoma spinal cord-Culture diagnosis
01345	Tuberculoma spinal cord-histological diagnosis
01346	Tuberculoma spinal cord-other test (inoculation of animals)
01350	Tuberculous spinal cord abscess-unspecified
01351	Tuberculous spinal cord abscess-no examination
01352	Tuberculous spinal cord abscess-examination unknown
01353	Tuberculous spinal cord abscess-Microscopy diagnosis
01354	Tuberculous spinal cord abscess-Culture diagnosis
01355	Tuberculous spinal cord abscess-histological diagnosis
01356	Tuberculous spinal cord abscess-other test (inoculation of animals)
01360	Tuberculous encephalitis-unspecified
01361	Tuberculous encephalitis-no examination
01362	Tuberculous encephalit-examination unknown
01363	Tuberculous encephalitis-Microscopy diagnosis
01364	Tuberculous encephalitis-Culture diagnosis
01365	Tuberculous encephalitis-histological diagnosis
01366	Tuberculous encephalitis-other test (inoculation of animals)
01380	Cns tuberculosis nec-unspecified
01381	Cns tuberculosis nec-no examination
01382	Cns tuberculosis nec-examination unknown
01383	Cns tuberculosis nec-Microscopy diagnosis
01384	Cns tuberculosis nec-Culture diagnosis
01385	Cns tuberculosis nec-histological diagnosis
01386	Cns tuberculosis nec-other test (inoculation of animals)
01390	Cns tuberculosis nos-unspecified
01391	Cns tuberculosis nos-no examination
01392	Cns tuberculosis nos-examination unknown
01393	Cns tuberculosis nos-Microscopy diagnosis
01394	Cns tuberculosis nos-Culture diagnosis
01395	Cns tuberculosis nos-histological diagnosis
01396	Cns tuberculosis nos-other test (inoculation of animals)

ICD-9 code	Description
01400	Tuberculous peritonitis-unspecified
01401	Tuberculous peritonitis-no examination
01402	Tuberculous peritonitis-examination unknown
01403	Tuberculous peritonitis-Microscopy diagnosis
01404	Tuberculous peritonitis-Culture diagnosis
01405	Tuberculous peritonitis-histological diagnosis
01406	Tuberculous peritonitis-other test (inoculation of animals)
01480	Intestinal tuberculosis nec-unspecified
01481	Intestin tuberculosis nec-no examination
01482	Intest tuberculosis nec-examination unknown
01483	Intestin tuberculosis nec-Microscopy diagnosis
01484	Intestin tuberculosis nec-Culture diagnosis
01485	Intestin tuberculosis nec-histological diagnosis
01486	Intestin tuberculosis nec-other test (inoculation of animals)
01500	Tuberculosis vertebra-unspecified
01501	Tuberculosis vertebra-no examination
01502	Tuberculosis vertebra-examination unknown
01503	Tuberculosis vertebra-Microscopy diagnosis
01504	Tuberculosis vertebra-Culture diagnosis
01505	Tuberculosis vertebra-histological diagnosis
01506	Tuberculosis vertebra-other test (inoculation of animals)
01510	Tuberculosis hip-unspecified
01511	Tuberculosis hip-no examination
01512	Tuberculosis hip-examination unknown
01513	Tuberculosis hip-Microscopy diagnosis
01514	Tuberculosis hip-Culture diagnosis
01515	Tuberculosis hip-histological diagnosis
01516	Tuberculosis hip-other test (inoculation of animals)
01520	Tuberculosis knee-unspecified
01521	Tuberculosis knee-no examination
01522	Tuberculosis knee-examination unknown
01523	Tuberculosis knee-Microscopy diagnosis
01524	Tuberculosis knee-Culture diagnosis
01525	Tuberculosis knee-histological diagnosis
01526	Tuberculosis knee-other test (inoculation of animals)
01550	Tuberculosis limb bones-unspecified
01551	Tuberculosis limb bones-no examination

ICD-9 code	Description
01552	Tuberculosis limb bones-examination unknown
01553	Tuberculosis limb bones-Microscopy diagnosis
01554	Tuberculosis limb bones-Culture diagnosis
01555	Tuberculosis limb bones-histological diagnosis
01556	Tuberculosis limb bones-other test (inoculation of animals)
01560	Tuberculosis mastoid-unspecified
01561	Tuberculosis mastoid-no examination
01562	Tuberculosis mastoid-examination unknown
01563	Tuberculosis mastoid-Microscopy diagnosis
01564	Tuberculosis mastoid-Culture diagnosis
01565	Tuberculosis mastoid-histological diagnosis
01566	Tuberculosis mastoid-other test (inoculation of animals)
01570	Tuberculosis bone nec-unspecified
01571	Tuberculosis bone nec-no examination
01572	Tuberculosis bone nec-examination unknown
01573	Tuberculosis bone nec-Microscopy diagnosis
01574	Tuberculosis bone nec-Culture diagnosis
01575	Tuberculosis bone nec-histological diagnosis
01576	Tuberculosis bone nec-other test (inoculation of animals)
01580	Tuberculosis joint nec-unspecified
01581	Tuberculosis joint nec-no examination
01582	Tuberculosis joint nec-examination unknown
01583	Tuberculosis joint nec-Microscopy diagnosis
01584	Tuberculosis joint nec-Culture diagnosis
01585	Tuberculosis joint nec-histological diagnosis
01586	Tuberculosis joint nec-other test (inoculation of animals)
01590	Tuberculosis bone/joint nos-unspecified
01591	Tuberculosis bone/joint nos-no examination
01592	Tuberculosis bone/joint nos-examination unknown
01593	Tuberculosis bone/joint nos-Microscopy diagnosis
01594	Tuberculosis bone/joint nos-Culture diagnosis
01595	Tuberculosis bone/joint nos-histological diagnosis
01596	Tuberculosis bone/joint nos-other test (inoculation of animals)
01600	Tuberculosis kidney-unspecified
01601	Tuberculosis kidney-no examination
01602	Tuberculosis kidney-examination unknown
01603	Tuberculosis kidney-Microscopy diagnosis

ICD-9 code	Description
01604	Tuberculosis kidney-Culture diagnosis
01605	Tuberculosis kidney-histological diagnosis
01606	Tuberculosis kidney-other test (inoculation of animals)
01610	Tuberculosis bladder-unspecified
01611	Tuberculosis bladder-no examination
01612	Tuberculosis bladder-examination unknown
01613	Tuberculosis bladder-Microscopy diagnosis
01614	Tuberculosis bladder-Culture diagnosis
01615	Tuberculosis bladder-histological diagnosis
01616	Tuberculosis bladder-other test (inoculation of animals)
01620	Tuberculosis ureter-unspecified
01621	Tuberculosis ureter-no examination
01622	Tuberculosis ureter-examination unknown
01623	Tuberculosis ureter-Microscopy diagnosis
01624	Tuberculosis ureter-Culture diagnosis
01625	Tuberculosis ureter-histological diagnosis
01626	Tuberculosis ureter-other test (inoculation of animals)
01630	Tuberculosis urinary organ nec-unspecified
01631	Tuberculosis urinary organ nec-no examination
01632	Tuberculosis urinary organ nec-examination unknown
01633	Tuberculosis urinary organ nec-Microscopy diagnosis
01634	Tuberculosis urinary organ nec-Culture diagnosis
01635	Tuberculosis urinary organ nec-histological diagnosis
01636	Tuberculosis urinary organ nec-other test (inoculation of animals)
01640	Tuberculosis epididymis-unspecified
01641	Tuberculosis epididymis-no examination
01642	Tuberculosis epididymis-examination unknown
01643	Tuberculosis epididymis-Microscopy diagnosis
01644	Tuberculosis epididymis-Culture diagnosis
01645	Tuberculosis epididymis-histological diagnosis
01646	Tuberculosis epididymis-other test (inoculation of animals)
01650	Tuberculosis male genital nec-unspecified
01651	Tuberculosis male gen nec-no examination
01652	Tuberculosis male genital nec-ex unknown
01653	Tuberculosis male genital nec-Microscopy diagnosis
01654	Tuberculosis male genital nec-Culture diagnosis
01655	Tuberculosis male genital nec-histological diagnosis

ICD-9 code	Description
01656	Tuberculosis male genital nec-other test (inoculation of animals)
01660	Tuberculosis ovary & tube-unspecified
01661	Tuberculosis ovary & tube-no examination
01662	Tuberculosis ovary & tube-examination unknown
01663	Tuberculosis ovary & tube-Microscopy diagnosis
01664	Tuberculosis ovary & tube-Culture diagnosis
01665	Tuberculosis ovary & tube-histological diagnosis
01666	Tuberculosis ovary & tube-other test (inoculation of animals)
01670	Tuberculosis female genital organ nec-unspecified
01671	Tuberculosis female genital organ nec-no examination
01672	Tuberculosis female genital organ nec-examination unknown
01673	Tuberculosis female genital organ nec-Microscopy diagnosis
01674	Tuberculosis female genital organ nec-Culture diagnosis
01675	Tuberculosis female genital organ nec-histological diagnosis
01676	Tuberculosis female genital organ nec-other test (inoculation of animals)
01690	Genitourinary tuberculosis nos-unspecified
01691	Genitourinary tuberculosis nos-no examination
01692	Genitourinary tuberculosis nos-examination unknown
01693	Genitourinary tuberculosis nos-Microscopy diagnosis
01694	Genitourinary tuberculosis nos-Culture diagnosis
01695	Genitourinary tuberculosis nos-histological diagnosis
01696	Genitourinary tuberculosis nos-other test (inoculation of animals)
01700	Tuberculosis skin & subcutaneous-unspecified
01701	Tuberculosis skin & subcutaneous-no examination
01702	Tuberculosis skin & subcutaneous-examination unknown
01703	Tuberculosis skin & subcutaneous-Microscopy diagnosis
01704	Tuberculosis skin & subcutaneous-Culture diagnosis
01705	Tuberculosis skin & subcutaneous-histological diagnosis
01706	Tuberculosis skin & subcutaneous-other test (inoculation of animals)
01710	Erythema nodosum tuberculosis-unspecified
01711	Erythema nodosum tuberculosis-no examination
01712	Erythema nodosum tuberculosis-examination unknown
01713	Erythema nodosum tuberculosis-Microscopy diagnosis
01714	Erythema nodosum tuberculosis-Culture diagnosis
01715	Erythema nodosum tuberculosis-histological diagnosis
01716	Erythema nodosum tuberculosis-other test (inoculation of animals)
01720	Tuberculosis peripheral lymph-unspecified

ICD-9 code	Description
01721	Tuberculosis peripheral lymph-no examination
01722	Tuberculosis peripheral lymph-examination unk
01723	Tuberculosis peripheral lymph-Microscopy diagnosis
01724	Tuberculosis peripheral lymph-Culture diagnosis
01725	Tuberculosis peripheral lymph-histological diagnosis
01726	Tuberculosis peripheral lymph-other test (inoculation of animals)
01730	Tuberculosis eye-unspecified
01731	Tuberculosis eye-no examination
01732	Tuberculosis eye-examination unknown
01733	Tuberculosis eye-Microscopy diagnosis
01734	Tuberculosis eye-Culture diagnosis
01735	Tuberculosis eye-histological diagnosis
01736	Tuberculosis eye-other test (inoculation of animals)
01740	Tuberculosis ear-unspecified
01741	Tuberculosis ear-no examination
01742	Tuberculosis ear-examination unknown
01743	Tuberculosis ear-Microscopy diagnosis
01744	Tuberculosis ear-Culture diagnosis
01745	Tuberculosis ear-histological diagnosis
01746	Tuberculosis ear-other test (inoculation of animals)
01750	Tuberculosis thyroid gland-unspecified
01751	Tuberculosis thyroid gland-no examination
01752	Tuberculosis thyroid gland-examination unknown
01753	Tuberculosis thyroid gland-Microscopy diagnosis
01754	Tuberculosis thyroid gland-Culture diagnosis
01755	Tuberculosis thyroid gland-histological diagnosis
01756	Tuberculosis thyroid gland-other test (inoculation of animals)
01760	Tuberculosis adrenal gland-unspecified
01761	Tuberculosis adrenal gland-no examination
01762	Tuberculosis adrenal gland-examination unknown
01763	Tuberculosis adrenal gland-Microscopy diagnosis
01764	Tuberculosis adrenal gland-Culture diagnosis
01765	Tuberculosis adrenal gland-histological diagnosis
01766	Tuberculosis adrenal gland-other test (inoculation of animals)
01770	Tuberculosis spleen-unspecified
01771	Tuberculosis spleen-no examination
01772	Tuberculosis spleen-examination unknown

ICD-9 code	Description
01773	Tuberculosis spleen-Microscopy diagnosis
01774	Tuberculosis spleen-Culture diagnosis
01775	Tuberculosis spleen-histological diagnosis
01776	Tuberculosis spleen-other test (inoculation of animals)
01780	Tuberculosis esophagus-unspecified
01781	Tuberculosis esophagus-no examination
01782	Tuberculosis esophagus-examination unknown
01783	Tuberculosis esophagus-Microscopy diagnosis
01784	Tuberculosis esophagus-Culture diagnosis
01785	Tuberculosis esophagus-histological diagnosis
01786	Tuberculosis esophagus-other test (inoculation of animals)
01790	Tuberculosis organ nec-unspecified
01791	Tuberculosis organ nec-no examination
01792	Tuberculosis organ nec-examination unknown
01793	Tuberculosis organ nec-Microscopy diagnosis
01794	Tuberculosis organ nec-Culture diagnosis
01795	Tuberculosis organ nec-histological diagnosis
01796	Tuberculosis organ nec-other test (inoculation of animals)
01800	Acute miliary tuberculosis-unspecified
01801	Acute miliary tuberculosis-no examination
01802	Acute miliary tuberculosis-examination unknown
01803	Acute miliary tuberculosis-Microscopy diagnosis
01804	Acute miliary tuberculosis-Culture diagnosis
01805	Acute miliary tuberculosis-histological diagnosis
01806	Acute miliary tuberculosis-other test (inoculation of animals)
01880	Miliary tuberculosis nec-unspecified
01881	Miliary tuberculosis nec-no examination
01882	Miliary tuberculosis nec-examination unknown
01883	Miliary tuberculosis nec-Microscopy diagnosis
01884	Miliary tuberculosis nec-Culture diagnosis
01885	Miliary tuberculosis nec-histological diagnosis
01886	Miliary tuberculosis nec-other test (inoculation of animals)
01890	Miliary tuberculosis nos-unspecified
01891	Miliary tuberculosis nos-no examination
01892	Miliary tuberculosis nos-examination unknown
01893	Miliary tuberculosis nos-Microscopy diagnosis
01894	Miliary tuberculosis nos-Culture diagnosis

ICD-9 code	Description
01895	Miliary tuberculosis nos-histological diagnosis
01896	Miliary tuberculosis nos-other test (inoculation of animals)

S.19: Calculation Flow Chart
Hemodialysis Vascular Access: Standardized Fistula Rate

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┌──────────┐         ┌────────────────────────────────────┐                    ┌──────────────┐
│          │         │ Determine validity of the patient  │       NO           │   Not in     │
│ CROWNWeb │────────▶│ months                             │──────────────────▶ │   Patient    │
│          │         │                                    │                    │  Population   │
└──────────┘         │ • Patient must be on home or in-   │                    └──────────────┘
                     │   center hemodialysis              │
                     │ • At least 18 years old as of the  │
                     │   first day of the reporting month │
                     └────────────────────────────────────┘
                                      │ YES
                                      ▼
```

Exclude patient months with limited life expectancy
- Patients under hospice care in the current reporting month
- Patients with metastatic cancer in the past 12 months
- Patients with end stage liver disease in the past 12 month
- Patients with coma or anoxic brain injury in the past 12 months

YES → Not in Patient Population

NO

Denominator

YES

CROWNWeb "Access_type_id" = 14 or 22 at the last treatment of the month where "14" represents AV fistula only (with 2 needles) and "22" represents AV fistula single needle device.

NO → Not in Numerator

YES

Model adjusted fistula rate

Adjusted for age, BMI, nursing home status, duration of ESRD, nephrologist care prior to ESRD, inability to ambulate/transfer, incident and prevalent comorbidities

Numerator

Facility SFR = Numerator/Denominator