

DRAFT

Anemia of chronic kidney disease: Dialysis facility standardized transfusion ratio (STrR)

3a Measure Information Form (MIF)

Data Source

- ◆ Electronic administrative data/ Claims

Data Source or Collection Instrument:

Data for the measure are derived from an extensive national ESRD patient database, which is derived from Program Medical Management and Information System (PMMIS/REMIS), Medicare claims, the Standard Information Management System (SIMS) database maintained by the 18 ESRD Networks, 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, and the Social Security Death Master File. The database is comprehensive for Medicare patients. Information on transfusions is obtained from Medicare Inpatient and Outpatient Claims Standard Analysis Files (SAFs).

Data Source or Collection Instrument Reference:

<http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs-Items/CMS018912.html>

Data Dictionary or Code Table:

<http://www.resdac.org/sites/resdac.org/files/RIF%20Inpatient%20SNF%20SAF%20Version%20J%20CMS.pdf>

Measure Set ID

- ◆ N/A

Version Number and effective date

- ◆ V. 1.3, 3/8/2013

CMS approval date

- ◆ Pending

NQF ID

- ◆ N/A

Date Endorsed

- ◆ N/A

Care Setting

- ◆ Dialysis Facility

Unit of Measurement

- ◆ Facility-level measure

Measurement Duration

- ◆ 1 year or more (e.g. 4 years)

Measurement Period

- ◆ 1 year or more (e.g. 4 years)

Measure Type

- ◆ Outcome

Measure Scoring

- ◆ Ratio/proportion

Payer source

- ◆ Medicare

Improvement notation

- ◆ Better quality = lower score

Measure steward

- ◆ CMS

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- ◆ N/A

Measure description

- ◆ Risk adjusted facility level transfusion ratio “STrR” for dialysis patients. It is a ratio of observed number of red blood cell transfusion events for each facility over the measurement period to expected number based on national experience and adjusted for patient mix.

Rationale

- ◆ Several changes in the ESRD system are likely to impact anemia management. These include identification of safety concerns associated with aggressive erythropoiesis-stimulating agent (ESA) use, expansion of the ESRD Prospective Payment System bundled payment, and the development of the ESRD Quality Incentive Program. There are concerns that these changes could result in underutilization of ESAs, with lower achieved hemoglobin values that may increase the frequency of red blood cell transfusion in the US chronic dialysis population.
- ◆ Blood transfusion may be an indicator for underutilization of treatments to increase endogenous red blood cell production (e.g. ESA, iron). In addition, dialysis patients who are eligible for kidney transplant and are transfused risk the development of becoming sensitized to the donor pool thereby making transplant more difficult to accomplish. Blood transfusions carry a small risk of transmitting blood borne infections, development of a

transfusion reaction, and using infusion centers or hospitals to transfuse patients is expensive, inconvenient, and could compromise future vascular access.

- ◆ Monitoring the risk-adjusted transfusion rate at the dialysis facility level, relative to a national standard, allows for detection of treatment patterns in dialysis-related anemia management. This is of particular importance due to recent FDA guidance regarding minimizing the use of ESAs and new economic incentives to minimize ESA use introduced by Medicare bundling payment for ESAs. As providers use less ESAs in an effort to minimize the risks associated with aggressive anemia treatment it becomes more important to monitor for an overreliance on transfusions.

Clinical Recommendation Statement

- ◆ Erythropoiesis-stimulating agents are indicated for the treatment of anemia due to chronic kidney disease (CKD), including patients on dialysis and not on dialysis to decrease the need for red blood cell (RBC) transfusion. The FDA recommends that therapy of ESAs should be individualized to the patient and the lowest possible ESA dose given to reduce the need for transfusions.
- ◆ From the package insert for Epogen (epoetin alfa), for patients with CKD on dialysis: “Use the lowest Epogen dose sufficient to reduce the need for red blood cell (RBC) transfusions.”
- ◆ From the package insert for Aranesp (darbepoetin alfa). For patients with CKD on dialysis: “Use the lowest Aranesp dose sufficient to reduce the need for red blood cell (RBC) transfusions.”
- ◆ KDIGO Anemia Guidelines 2012: Guideline 3.2: In initiating and maintaining ESA therapy, we recommend balancing the potential benefits of reducing blood transfusions and anemia-related symptoms against the risks of harm in individual patients (e.g., stroke, vascular access loss, hypertension). (1B). The notation reflects the grading of the underlying evidence as explained in the table below.
- ◆ KDIGO Anemia Guidelines 2012: Guideline 4.1.1: When managing chronic anemia, we recommend avoiding, when possible, red cell transfusions to minimize the general risks related to their use. (1B). The notation reflects the grading of the underlying evidence as explained in the table below.
- ◆
- ◆ KDIGO Anemia Guidelines 2012: Guideline 4.1.3: When managing chronic anemia, we suggest that the benefits of red cell transfusions may outweigh the risks in patients in whom (2C):
 - ESA therapy is ineffective (e.g., hemoglobinopathies, bone marrow failure, ESA resistance)
 - The risks of ESA therapy may outweigh its benefits (e.g., previous or current malignancy, previous stroke)

The notation reflects the grading of the underlying evidence as explained in the table below.

NOMENCLATURE AND DESCRIPTION FOR RATING GUIDELINE RECOMMENDATIONS

Within each recommendation, the strength of recommendation is indicated as **Level 1**, **Level 2**, or **Not Graded**, and the quality of the supporting evidence is shown as **A**, **B**, **C**, or **D**.

Grade*	Implications		
	Patients	Clinicians	Policy
Level 1 'We recommend'	Most people in your situation would want the recommended course of action and only a small proportion would not.	Most patients should receive the recommended course of action.	The recommendation can be evaluated as a candidate for developing a policy or a performance measure.
Level 2 'We suggest'	The majority of people in your situation would want the recommended course of action, but many would not.	Different choices will be appropriate for different patients. Each patient needs help to arrive at a management decision consistent with her or his values and preferences.	The recommendation is likely to require substantial debate and involvement of stakeholders before policy can be determined.

*The additional category 'Not Graded' was used, typically, to provide guidance based on common sense or where the topic does not allow adequate application of evidence. The most common examples include recommendations regarding monitoring intervals, counseling, and referral to other clinical specialists. The ungraded recommendations are generally written as simple declarative statements, but are not meant to be interpreted as being stronger recommendations than Level 1 or 2 recommendations.

Grade	Quality of evidence	Meaning
A	High	We are confident that the true effect lies close to that of the estimate of the effect.
B	Moderate	The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
C	Low	The true effect may be substantially different from the estimate of the effect.
D	Very Low	The estimate of effect is very uncertain, and often will be far from the truth.

References

- ◆ FDA Drug Safety Communication: Modified dosing recommendations to improve the safe use of Erythropoiesis-Stimulating Agents (ESAs) in chronic kidney disease. <http://www.fda.gov/Drugs/DrugSafety/ucm259639.htm>
- ◆ Highlights of prescribing information: Epogen (epoetin alfa) http://www.accessdata.fda.gov/drugsatfda_docs/label/2011/103234Orig1s5166_103234Orig1s5266lbl.pdf
- ◆ Highlights of prescribing information: Aranesp (darbepoetin alfa) http://www.accessdata.fda.gov/drugsatfda_docs/label/2011/103951Orig1s5173_103951Orig1s5258lbl.pdf
- ◆ Kidney Disease: Improving Global Outcomes (KDIGO) Anemia Work Group. KDIGO Clinical Practice Guideline for Anemia in Chronic Kidney Disease. *Kidney inter., Suppl.* 2012; 2: 279–335.

Release Notes / Summary of Changes

- ◆ Updated risk adjustment, measure title

Technical Specifications

- ◆ Target Population

Adult patients (≥ 18 years old) with 90+ days on dialysis with exclusions for patients with comorbid conditions that may lead to transfusions unrelated to dialysis facility anemia management practice.

Denominator

- ◆ Denominator Statement

Number of red blood cell transfusion events (as defined in the numerator statement) that would be expected among eligible patients at a facility during the reporting period, given the patient mix at the facility.

◆ Denominator Details

For each patient, the dialysis provider is identified at each point in time. Starting with day 91 after onset of ESRD, patients are attributed to facilities according to the following rules. A patient is attributed to a facility once the patient has been treated there for 60 days. When a patient transfers from one facility to another, the patient continues to be attributed to the original facility for 60 days and then is attributed to the destination facility.

Based on a risk adjustment model for the overall national transfusion rates, we compute the expected number of red blood cell transfusion events for each patient attributed to a given facility. The sum of all such expectations over patients in a facility yields the overall expected number of transfusions for a given facility given the specific patient mix and this forms the denominator of the measure.

As currently implemented, this measure is based on Medicare administrative claims and databases. . Thus, the measure is relevant to patients covered by Medicare.

◆ Denominator Exceptions and Exclusions

- ◆ Any transfusions associated with transplant hospitalization are excluded. Patients are excluded if they have a documented presence of hemolytic and aplastic anemia, solid organ cancer (breast, prostate, lung, digestive tract and others), lymphoma, carcinoma in situ, coagulation disorders, multiple myeloma, myelodysplastic syndrome and myelofibrosis, leukemia, head and neck cancer, other cancers (connective tissue, skin, and others), metastatic cancer, sickle cell anemia as these comorbidities are associated with higher risk of transfusion and require different anemia management practices that the measure is not intended to address. Denominator Exceptions and Exclusions Details

Relevant exclusion with International Classification of Diseases, Ninth Edition, Clinical Modification codes are listed in Appendix A.

Details: Definitions and instructions as needed.

Patients diagnosed with any of the above conditions are excluded from the dataset.

Numerator

◆ Numerator Statement

Number of observed red blood cell transfusion events (defined as transfer of one or more units of blood or blood products as described in the following code set into recipient's blood stream) among eligible patients at the facility during the reporting period.

◆ Numerator Details

Red blood cell transfusions are identified by in-patient records with revenue center codes in (0380, 0381, 0382, 0389, 0390, 0391, 0392, 0399) or value code = 37 or procedure code in (9903, 9904) and with out-patient records with revenue center codes in (0380, 0381, 0382, 0389, 0390, 0391, 0392, 0399) and HCPCS code in (P9010, P9011, P9016, P9021, P9022, P9038, P9039, P9040, P9051, P9054, P9056, P9058, 36430).

Table of Code Meanings

Field	Value	Meaning
Revenue Center Code	0380	Blood - General Classification
	0381	Blood - Packed Red Cells

Field	Value	Meaning
	0382	Blood - Whole Blood
	0389	Blood - Other Blood
	0390	Blood Storage and Processing - General Classification
	0391	Blood Storage and Processing - Administration
	0392	Blood Storage and Processing - Blood Processing and Storage
	0399	Blood Storage and Processing - Other Storage & Processing
Procedure Codes	9903	Other Transfusion Of Whole Blood
	9904	Transfusion Of Packed Cells
Value Code	37	Pints of blood furnished
HCPCS Code	P9010	Whole blood for transfusion
	P9011	Blood split unit
	P9016	RBC leukocytes reduced
	P9021	Red blood cells unit
	P9022	Washed red blood cells unit
	P9038	RBC irradiated
	P9039	RBC deglycerolized
	P9040	RBC leukoreduced irradiated
	P9051	Blood, l/r, cmv-neg
	P9054	Blood, l/r, froz/degly/wash
	P9056	Blood, l/r, irradiated
	P9057	RBC, frz/deg/wsh, l/r, irradi
	P9058	RBC, l/r, cmv-neg, irradi
	36430*	Transfusion, blood or blood component

*36430 is CPT code, but is found in the HCPCS code field

Details: Definitions and instructions as needed.

The numerator is calculated using Medicare Claims data. Transfusion event is identified by using the above mentioned codes and then the patient is identified and attributed to a dialysis facility using the rules discussed in the denominator details. The numerator is the count of all such transfusion events over the reporting period for a given facility.

Stratification or Risk Adjustment

The denominator of the “STrR” uses expected transfusions calculated from a Cox model (Cox, 1972) as extended to handle repeated events (Lawless and Nadeau, 1995; Lin et al., 2000; Kalbfleisch and Prentice, 2002). For computational purposes, we adopt a model with piecewise constant baseline rates (e.g. Cook and Lawless, 2007) and computational methodology as developed in Liu, Schaubel and Kalbfleisch (2010). A stage 1 model is first fitted to the national data with piecewise-constant baseline rates stratified by facility; transfusion rates are adjusted for patient age, diabetes, duration of ESRD, nursing home status, BMI at incidence, comorbidity index at incidence, and calendar year. This model allows the baseline transfusion rates to vary between strata (facilities), but assumes that the regression coefficients are the same across all strata; this approach is robust to possible differences between facilities in the patient mix being treated. The linear predictor for each patient based on the regression coefficients in the stage 1 model is used to compute a risk adjustment factor that is then used as an offset in the stage 2 model.

The coefficients of the variables resulting from the Cox Model are shown below:

Table of Parameter Estimates of Transfusion Events for Medicare-Covered Dialysis Patients

Parameter	Level	Type	Estimate	Standard Error	p value
Age		Categorical (60-74 is ref)			
15-24 years old		Categorical (60-74 is ref)	-0.16806	0.02565	<.0001
25-44 years old		Categorical (60-74 is ref)	-0.3772	0.01036	<.0001
45-59 years old		Categorical (60-74 is ref)	-0.23298	0.00842	<.0001
75 or older		Categorical (60-74 is ref)	0.06178	0.00855	<.0001
Diabetes		Categorical (0 versus 1)	-0.04974	0.01764	0.0048
Cause of ESRD Missing		Categorical (0 versus 1)	0.00201	0.02874	0.9442
Patient in Nursing Home		Categorical (0 versus 1)	0.57083	0.00725	<.0001
Log of BMI		Continuous	-0.21356	0.00899	<.0001
BMI Missing		Categorical (0 versus 1)	0.12111	0.01352	<.0001
Comorbidity Index		Continuous	0.41501	0.00989	<.0001
Comorbidity Index of 0		Categorical (0 versus 1)	-0.14637	0.0076	<.0001
Comorbidity Index Missing		Categorical (0 versus 1)	-0.12118	0.03801	0.0014
Year	2009	Categorical	-0.04096	0.00632	<.0001
Year	2010	Categorical	-0.09628	0.00633	<.0001
Year	2011	Categorical	-0.01531	0.00615	0.0128
Duration_of_ESRD*Diabetes	6 months-1 year	Interaction (Duration of ESRD in Diabetes)	0.06586	0.02113	0.0018
Duration_of_ESRD*Diabetes	1-2 years	Interaction (Duration of ESRD in Diabetes)	0.10632	0.0197	<.0001
Duration_of_ESRD*Diabetes	2-3 years	Interaction (Duration of ESRD in Diabetes)	0.10415	0.02043	<.0001
Duration_of_ESRD*Diabetes	3-5 years	Interaction (Duration of ESRD in Diabetes)	0.06755	0.01938	0.0005
Duration_of_ESRD*Diabetes	5+ years	Interaction (Duration of ESRD in Diabetes)	0.0568	0.01878	0.0025
Age*Diabetes	15-24 years old	Interaction (Age in Diabetes)	0.55965	0.09358	<.0001
Age*Diabetes	25-44 years old	Interaction (Age in Diabetes)	0.34547	0.0154	<.0001
Age*Diabetes	45-59 years old	Interaction (Age in Diabetes)	0.16794	0.01104	<.0001
Age*Diabetes	75 or older	Interaction (Age in Diabetes)	-0.01513	0.01196	0.2057

References:

- ◆ Cox, D.R. (1972) Regression Models and Life Tables (with Discussion). J. Royal statistical Society, Series B, 34, 187-220.
- ◆ Cook, R. and Lawless, J. The Statistical Analysis of Recurrent Events. New York: Springer. 2007.
- ◆ Cook, R. and Lawless, J. Marginal analysis of recurrent events and a terminal event. Statistics in Medicine 1997; 16: 911-924.
- ◆ Kalbfleisch, J.D. and Prentice, R. L. The Statistical Analysis of Failure Time Data. Wiley, New York, 2002.
- ◆ Lawless, J. F. and Nadeau, C. Some simple and robust methods for the analysis of recurrent events, Technometrics, 37 1995, 355-364.
- ◆ Lin, D.Y., Wei, L.J., Yang, I. and Ying, Z. Semi parametric regression for the mean and rate functions of recurrent events, Journal of the Royal Statistical Society Series B, 62, 2000, 771-730
- ◆ Liu, D., Schaubel, D.E. and Kalbfleisch, J.D. Computationally efficient marginal models for clustered recurrent event data, University of Michigan Department of Biostatistics Technical Reports, 2010

Sampling

2a1.24. If measure is based on a sample (or survey), provide instructions for obtaining the sample and conducting the survey, and guidance on minimum sample size (response rate).

N/A

Calculation Algorithm

Calculation Algorithm/Measure logic: 2a1.20, 2a1.21. Describe the calculation of the measure as a flow chart or series of steps.

Numerator is the observed number of transfusion events for a facility and denominator for the same facility is the expected number of transfusion events adjusted for patient mix. The measure for a given facility is calculated by dividing the numerator by the denominator.

DRAFT

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
283	Acquired hemolytic anemias	Hemolytic and Aplastic Anemias
2830	Autoimmune hemolytic anemias	Hemolytic and Aplastic Anemias
2831	Non-autoimmune hemolytic anemias	Hemolytic and Aplastic Anemias
28310	Non-autoimmune hemolytic anemias, unspecified	Hemolytic and Aplastic Anemias
28311	Non-autoimmune hemolytic anemias, hemolytic-uremic syndrome	Hemolytic and Aplastic Anemias
28319	Non-autoimmune hemolytic anemias, other	Hemolytic and Aplastic Anemias
2832	Hemoglobinuria due to hemolysis from external causes	Hemolytic and Aplastic Anemias
2839	Acquired hemolytic anemias, unspecified	Hemolytic and Aplastic Anemias
2840	Constitutional aplastic anemia	Hemolytic and Aplastic Anemias
2848	Other specified aplastic anemias	Hemolytic and Aplastic Anemias
28481	Red cell aplasia (acquired)(adult)(with thymoma)	Hemolytic and Aplastic Anemias
28489	Other specified aplastic anemias	Hemolytic and Aplastic Anemias
2849	Aplastic anemia, unspecified	Hemolytic and Aplastic Anemias
28240	hereditary hemolytic anemia, Thalassemia, unspecified	Hemolytic and Aplastic Anemias
28243	hereditary hemolytic anemia, Alpha thalassemia	Hemolytic and Aplastic Anemias
28244	hereditary hemolytic anemia, Beta thalassemia	Hemolytic and Aplastic Anemias
28245	hereditary hemolytic anemia, Delta-beta thalassemia	Hemolytic and Aplastic Anemias
28246	hereditary hemolytic anemia, Thalassemia minor	Hemolytic and Aplastic Anemias
28247	hereditary hemolytic anemia, Hemoglobin E-beta thalassemia	Hemolytic and Aplastic Anemias
284	aplastic anemia and other bone marrow failure syndromes, Aplastic anemia and other bone marrow failure syndromes	Hemolytic and Aplastic Anemias
28401	aplastic anemia and other bone marrow failure syndromes, Constitutional red blood cell aplasia	Hemolytic and Aplastic Anemias
28409	aplastic anemia and other bone marrow failure syndromes, Other constitutional aplastic anemia	Hemolytic and Aplastic Anemias
2841	aplastic anemia and other bone marrow failure syndromes, Pancytopenia	Hemolytic and Aplastic Anemias
28411	aplastic anemia and other bone marrow failure syndromes, Antineoplastic chemotherapy induced pancytopenia	Hemolytic and Aplastic Anemias
28412	aplastic anemia and other bone marrow failure syndromes, Other drug-induced pancytopenia	Hemolytic and Aplastic Anemias
28419	aplastic anemia and other bone marrow failure syndromes, Other pancytopenia	Hemolytic and Aplastic Anemias
2842	aplastic anemia and other bone marrow failure syndromes, Myelophthisis	Hemolytic and Aplastic Anemias
282	Hereditary hemolytic anemias	Hemolytic and Aplastic Anemias
2820	Hereditary spherocytosis	Hemolytic and Aplastic Anemias
2821	Hereditary elliptocytosis	Hemolytic and Aplastic Anemias
2822	Anemias due to disorders of glutathione metabolism	Hemolytic and Aplastic Anemias
2823	Other hemolytic anemias due to enzyme deficiency	Hemolytic and Aplastic Anemias
2824	Thalassemias	Hemolytic and Aplastic Anemias
28241	Sickle-cell thalassemia without crisis	Hemolytic and Aplastic Anemias
28242	Sickle-cell thalassemia with crisis	Hemolytic and Aplastic Anemias
28249	Other thalassemias	Hemolytic and Aplastic Anemias
2825	Sickle-cell trait	Hemolytic and Aplastic Anemias
2827	Other hemoglobinopathies	Hemolytic and Aplastic Anemias
2828	Other specified hereditary hemolytic anemias	Hemolytic and Aplastic Anemias
2829	Hereditary hemolytic anemia, unspecified	Hemolytic and Aplastic Anemias
153	Malignant neoplasm of colon	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1530	Malignant neoplasm of colon, hepatic flexure	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1531	Malignant neoplasm of colon, transverse colon	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1532	Malignant neoplasm of colon, descending colon	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1533	Malignant neoplasm of colon, sigmoid colon	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1534	Malignant neoplasm of colon, cecum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1535	Malignant neoplasm of colon, appendix	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1536	Malignant neoplasm of colon, ascending colon	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1537	Malignant neoplasm of colon, splenic flexure	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1538	Malignant neoplasm of colon, other specified sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1539	Malignant neoplasm of colon, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
154	Malignant neoplasm of rectum, rectosigmoid junction and anus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1540	Malignant neoplasm of rectum, rectosigmoid junction and anus, rectosigmoid junction	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
1541	Malignant neoplasm of rectum, rectosigmoid junction and anus, rectum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1542	Malignant neoplasm of rectum, rectosigmoid junction and anus, anal canal	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1543	Malignant neoplasm of rectum, rectosigmoid junction and anus, anus, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1548	Malignant neoplasm of rectum, rectosigmoid junction and anus, other	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
159	Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1590	Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum, intestinal tract, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1591	Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum, spleen, NEC	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1598	Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum, other sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1599	Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum, ill-defined	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
172	Malignant melanoma of skin	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1720	Malignant melanoma of skin, lip	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1721	Malignant melanoma of skin, eyelid including canthus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1722	Malignant melanoma of skin, ear and auditory canal	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1723	Malignant melanoma of skin, other and unspecified parts of face	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1724	Malignant melanoma of skin, scalp and neck	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1725	Malignant melanoma of skin, trunk, except scrotum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1726	Malignant melanoma of skin, upper limb, including shoulder	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1727	Malignant melanoma of skin, lower limb, including hip	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1728	Malignant melanoma of skin, other specified sites of skin	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1729	Malignant melanoma of skin, site unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
174	Malignant neoplasm of female breast	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1740	Malignant neoplasm of female breast, nipple and areola	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1741	Malignant neoplasm of female breast, central portion	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1742	Malignant neoplasm of female breast, upper-inner quadrant	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1743	Malignant neoplasm of female breast, lower-inner quadrant	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1744	Malignant neoplasm of female breast, upper-outer quadrant	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1745	Malignant neoplasm of female breast, lower-outer quadrant	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1746	Malignant neoplasm of female breast, axillary tail	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1748	Malignant neoplasm of female breast, other specified sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1749	Malignant neoplasm of female breast, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
175	Malignant neoplasm of male breast	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1750	Malignant neoplasm of male breast, nipple and areola	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1759	Malignant neoplasm of male breast, other and unspecified sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
179	Malignant neoplasm of uterus, part unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
180	Malignant neoplasm of cervix uteri	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1800	Malignant neoplasm of cervix uteri, endocervix	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1801	Malignant neoplasm of cervix uteri, exocervix	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1808	Malignant neoplasm of cervix uteri, other specified sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1809	Malignant neoplasm of cervix uteri, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
182	Malignant neoplasm of body of uterus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1820	Malignant neoplasm of body of uterus, corpus uteri, except isthmus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1821	Malignant neoplasm of body of uterus, isthmus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1828	Malignant neoplasm of body of uterus, other specified sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
184	Malignant neoplasm of other and unspecified female genital organs	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1840	Malignant neoplasm of other and unspecified female genital organs, vagina	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1841	Malignant neoplasm of other and unspecified female genital organs, labia majora	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1842	Malignant neoplasm of other and unspecified female genital organs, labia minora	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1843	Malignant neoplasm of other and unspecified female genital organs, clitoris	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1844	Malignant neoplasm of other and unspecified female genital organs, vulva, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1848	Malignant neoplasm of other and unspecified female genital organs, other specified sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1849	Malignant neoplasm of other and unspecified female genital organs, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
185	Malignant neoplasm of prostate	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
186	Malignant neoplasm of testis	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
1860	Malignant neoplasm of testis, undescended testis	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1869	Malignant neoplasm of testis, other and unspecified testis	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
187	Malignant neoplasm of poenis and other male genital organs	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1871	Malignant neoplasm of poenis and other male genital organs, prepuce	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1872	Malignant neoplasm of poenis and other male genital organs, glans penis	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1873	Malignant neoplasm of poenis and other male genital organs, body of penis	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1874	Malignant neoplasm of poenis and other male genital organs, penis, part unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1875	Malignant neoplasm of poenis and other male genital organs, epididymis	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1876	Malignant neoplasm of poenis and other male genital organs, spermatic cord	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1877	Malignant neoplasm of poenis and other male genital organs, scrotum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1878	Malignant neoplasm of poenis and other male genital organs, other specified sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1879	Malignant neoplasm of poenis and other male genital organs, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
188	Malignant neoplasm of bladder	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1880	Malignant neoplasm of bladder, trigone of urinary bladder	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1881	Malignant neoplasm of bladder, dome of urinary bladder	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1882	Malignant neoplasm of bladder, lateral wall of urinary bladder	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1883	Malignant neoplasm of bladder, anterior wall of urinary bladder	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1884	Malignant neoplasm of bladder, posterior wall of urinary bladder	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1885	Malignant neoplasm of bladder, bladder neck	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1886	Malignant neoplasm of bladder, ureteric orifice	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1887	Malignant neoplasm of bladder, urachus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1888	Malignant neoplasm of bladder, other specified sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1889	Malignant neoplasm of bladder, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
189	Malignant neoplasm of kidney and other and unspecified urinary organs	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1890	Malignant neoplasm of kidney and other and unspecified urinary organs, kidney, except pelvis	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1891	Malignant neoplasm of kidney and other and unspecified urinary organs, renal pelvis	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1892	Malignant neoplasm of kidney and other and unspecified urinary organs, ureter	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1893	Malignant neoplasm of kidney and other and unspecified urinary organs, urethra	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1894	Malignant neoplasm of kidney and other and unspecified urinary organs, paraurethral glands	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1898	Malignant neoplasm of kidney and other and unspecified urinary organs, other specifeid sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1899	Malignant neoplasm of kidney and other and unspecified urinary organs, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
190	Malignant neoplasm of eye	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1900	Malignant neoplasm of eye, eyeball, except conjunctive, corneam retina and shoroid	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1901	Malignant neoplasm of eye, orbit	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1902	Malignant neoplasm of eye, lacrimal gland	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1903	Malignant neoplasm of eye, conjunctiva	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1904	Malignant neoplasm of eye, cornea	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1905	Malignant neoplasm of eye, retina	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1906	Malignant neoplasm of eye, choroid	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1907	Malignant neoplasm of eye, lacrimal duct	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1908	Malignant neoplasm of eye, other specifeid sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1909	Malignant neoplasm of eye, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
193	Malignant neoplasm of thyuroid gland	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
194	Malignant neoplasm of other endocrine glands and related structures	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1941	Malignant neoplasm of other endocrine glands and related structures, adrenal gland	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1945	Malignant neoplasm of other endocrine glands and related structures, carotid body	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1946	Malignant neoplasm of other endocrine glands and related structures, aortic body and other paraganglia	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1948	Malignant neoplasm of other endocrine glands and related structures, other	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1949	Malignant neoplasm of other endocrine glands and related structures, unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
195	Malignant neoplasm of other and ill-defined sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1950	Malignant neoplasm of other and ill-defined sites, head, face and neck	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1951	Malignant neoplasm of other and ill-defined sites, thorax	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1952	Malignant neoplasm of other and ill-defined sites, abdomen	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
1953	Malignant neoplasm of other and ill-defined sites, pelvis	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1954	Malignant neoplasm of other and ill-defined sites, upper limb	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1955	Malignant neoplasm of other and ill-defined sites, lower limb	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1958	Malignant neoplasm of other and ill-defined sites, other specified sites	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
199	Malignant neoplasm without specification of site	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1991	Malignant neoplasm without specification of site, disseminated	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1992	cancer, Malignant neoplasm associated with transplant organ	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
150	Malignant neoplasm of esophagus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1500	Malignant neoplasm of cervical esophagus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1501	Malignant neoplasm of thoracic esophagus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1502	Malignant neoplasm of abdominal esophagus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1503	Malignant neoplasm of upper third of esophagus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1504	Malignant neoplasm of middle third of esophagus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1505	Malignant neoplasm of lower third of esophagus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1508	Malignant neoplasm of other specified part of esophagus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1509	Malignant neoplasm of esophagus unspecified site	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
151	Malignant neoplasm of stomach	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1510	Malignant neoplasm of cardia	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1511	Malignant neoplasm of pylorus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1512	Malignant neoplasm of pyloric antrum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1513	Malignant neoplasm of fundus of stomach	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1514	Malignant neoplasm of body of stomach	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1515	Malignant neoplasm of lesser curvature of stomach unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1516	Malignant neoplasm of greater curvature of stomach unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1518	Malignant neoplasm of other specified sites of stomach	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1519	Malignant neoplasm of stomach unspecified site	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
152	Malignant neoplasm of small intestine including duodenum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1520	Malignant neoplasm of duodenum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1521	Malignant neoplasm of jejunum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1522	Malignant neoplasm of ileum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1523	Malignant neoplasm of meckel's diverticulum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1528	Malignant neoplasm of other specified sites of small intestine	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1529	Malignant neoplasm of small intestine unspecified site	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
155	Malignant neoplasm of liver and intrahepatic bile ducts	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1550	Malignant neoplasm of liver primary	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1551	Malignant neoplasm of intrahepatic bile ducts	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1552	Malignant neoplasm of liver not specified as primary or secondary	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
156	Malignant neoplasm of gallbladder and extrahepatic bile ducts	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1560	Malignant neoplasm of gallbladder	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1561	Malignant neoplasm of extrahepatic bile ducts	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1562	Malignant neoplasm of ampulla of vater	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1568	Malignant neoplasm of other specified sites of gallbladder and extrahepatic bile ducts	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1569	Malignant neoplasm of biliary tract part unspecified site	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
157	Malignant neoplasm of pancreas	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1570	Malignant neoplasm of head of pancreas	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1571	Malignant neoplasm of body of pancreas	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1572	Malignant neoplasm of tail of pancreas	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1573	Malignant neoplasm of pancreatic duct	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1574	Malignant neoplasm of islets of langerhans	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1578	Malignant neoplasm of other specified sites of pancreas	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1579	Malignant neoplasm of pancreas part unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
158	Malignant neoplasm of retroperitoneum and peritoneum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1580	Malignant neoplasm of retroperitoneum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
1588	Malignant neoplasm of specified parts of peritoneum	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1589	Malignant neoplasm of peritoneum unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
162	Malignant neoplasm of trachea bronchus and lung	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1620	Malignant neoplasm of trachea	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1622	Malignant neoplasm of main bronchus	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1623	Malignant neoplasm of upper lobe bronchus or lung	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1624	Malignant neoplasm of middle lobe bronchus or lung	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1625	Malignant neoplasm of lower lobe bronchus or lung	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1628	Malignant neoplasm of other parts of bronchus or lung	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1629	Malignant neoplasm of bronchus and lung unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
163	Malignant neoplasm of pleura	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1630	Malignant neoplasm of parietal pleura	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1631	Malignant neoplasm of visceral pleura	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1638	Malignant neoplasm of other specified sites of pleura	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
1639	Malignant neoplasm of pleura unspecified	Solid Organ Cancer (Breast, Prostate, Lung, Digestive tract and others)
2003	cancer, Marginal zone lymphoma	Lymphoma
2004	cancer, Mantle cell lymphoma	Lymphoma
2005	cancer, Primary central nervous system lymphoma	Lymphoma
2006	cancer, Anaplastic large cell lymphoma	Lymphoma
2007	cancer, Large cell lymphoma	Lymphoma
2019	cancer, Hodgkin's disease unspecified type	Lymphoma
20190	cancer, Hodgkin's disease, unspecified type, unspecified site, extranodal and solid organ sites	Lymphoma
20191	cancer, Hodgkin's disease, unspecified type, lymph nodes of head, face, and neck	Lymphoma
20192	cancer, Hodgkin's disease, unspecified type, intrathoracic lymph nodes	Lymphoma
20193	cancer, Hodgkin's disease, unspecified type, intra-abdominal lymph nodes	Lymphoma
20194	cancer, Hodgkin's disease, unspecified type, lymph nodes of axilla and upper limb	Lymphoma
20195	cancer, Hodgkin's disease, unspecified type, lymph nodes of inguinal region and lower limb	Lymphoma
20196	cancer, Hodgkin's disease, unspecified type, intrapelvic lymph nodes	Lymphoma
20197	cancer, Hodgkin's disease, unspecified type, spleen	Lymphoma
20198	cancer, Hodgkin's disease, unspecified type, lymph nodes of multiple sites	Lymphoma
202	cancer, Other malignant neoplasms of lymphoid and histiocytic tissue	Lymphoma
2020	cancer, Nodular lymphoma	Lymphoma
20200	cancer, unspecified site, extranodal and solid organ sites	Lymphoma
20201	cancer, lymph nodes of head, face, and neck	Lymphoma
20202	cancer, intrathoracic lymph nodes	Lymphoma
20203	cancer, intra-abdominal lymph nodes	Lymphoma
20204	cancer, lymph nodes of axilla and upper limb	Lymphoma
20205	cancer, lymph nodes of inguinal region and lower limb	Lymphoma
20206	cancer, intrapelvic lymph nodes	Lymphoma
20207	cancer, spleen	Lymphoma
20208	cancer, lymph nodes of multiple sites	Lymphoma
2027	cancer, peripheral t-cell lymphoma	Lymphoma
2028	cancer, other malignant lymphomas	Lymphoma
20280	cancer, unspecified site, extranodal and solid organ sites	Lymphoma
20281	cancer, lymph nodes of head, face, and neck	Lymphoma
20282	cancer, intrathoracic lymph nodes	Lymphoma
20283	cancer, intra-abdominal lymph nodes	Lymphoma
20284	cancer, lymph nodes of axilla and upper limb	Lymphoma
20285	cancer, lymph nodes of inguinal region and lower limb	Lymphoma
20286	cancer, intrapelvic lymph nodes	Lymphoma
20287	cancer, spleen	Lymphoma
20288	cancer, lymph nodes of multiple sites	Lymphoma
203	cancer, Multiple myeloma and immunoproliferative neoplasms	Lymphoma

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
23877	myelodysplasia, Post-transplant lymphoproliferative disorder (PTLD)	Lymphoma
200	Lymphosarcoma and reticulosarcoma	Lymphoma
2000	Lymphosarcoma and reticulosarcoma	Lymphoma
20000	Lymphosarcoma and reticulosarcoma	Lymphoma
20001	Lymphosarcoma and reticulosarcoma	Lymphoma
20002	Lymphosarcoma and reticulosarcoma	Lymphoma
20003	Lymphosarcoma and reticulosarcoma	Lymphoma
20004	Lymphosarcoma and reticulosarcoma	Lymphoma
20005	Lymphosarcoma and reticulosarcoma	Lymphoma
20006	Lymphosarcoma and reticulosarcoma	Lymphoma
20007	Lymphosarcoma and reticulosarcoma	Lymphoma
20008	Lymphosarcoma and reticulosarcoma	Lymphoma
2001	Lymphosarcoma	Lymphoma
20010	Lymphosarcoma	Lymphoma
20011	Lymphosarcoma	Lymphoma
20012	Lymphosarcoma	Lymphoma
20013	Lymphosarcoma	Lymphoma
20014	Lymphosarcoma	Lymphoma
20015	Lymphosarcoma	Lymphoma
20016	Lymphosarcoma	Lymphoma
20017	Lymphosarcoma	Lymphoma
20018	Lymphosarcoma	Lymphoma
2002	Burkitt's tumor or lymphoma	Lymphoma
20020	Burkitt's tumor or lymphoma	Lymphoma
20021	Burkitt's tumor or lymphoma	Lymphoma
20022	Burkitt's tumor or lymphoma	Lymphoma
20023	Burkitt's tumor or lymphoma	Lymphoma
20024	Burkitt's tumor or lymphoma	Lymphoma
20025	Burkitt's tumor or lymphoma	Lymphoma
20026	Burkitt's tumor or lymphoma	Lymphoma
20027	Burkitt's tumor or lymphoma	Lymphoma
20028	Burkitt's tumor or lymphoma	Lymphoma
20030	Marginal zone lymphoma, unspecified site, extranodal and solidorgan sites	Lymphoma
20031	Marginal zone lymphoma, lymph nodes of head, face, and neck	Lymphoma
20032	Marginal zone lymphoma, intrathoracic lymph nodes	Lymphoma
20033	Marginal zone lymphoma, intraabdominal lymph nodes	Lymphoma
20034	Marginal zone lymphoma, lymph nodes of axilla and upper limb	Lymphoma
20035	Marginal zone lymphoma, lymph nodes of inguinal region and lower limb	Lymphoma
20036	Marginal zone lymphoma, intrapelvic lymph nodes	Lymphoma
20037	Marginal zone lymphoma, spleen	Lymphoma
20038	Marginal zone lymphoma, lymph nodes of multiple sites	Lymphoma
20040	Mantle cell lymphoma, unspecified site, extranodal and solid organ sites	Lymphoma
20041	Mantle cell lymphoma, lymph nodes of head, face, and neck	Lymphoma
20042	Mantle cell lymphoma, intrathoracic lymph nodes	Lymphoma
20043	Mantle cell lymphoma, intra-abdominal lymph nodes	Lymphoma
20044	Mantle cell lymphoma, lymph nodes of axilla and upper limb	Lymphoma
20045	Mantle cell lymphoma, lymph nodes of inguinal region and lower limb	Lymphoma
20046	Mantle cell lymphoma, intrapelvic lymph nodes	Lymphoma
20047	Mantle cell lymphoma, spleen	Lymphoma
20048	Mantle cell lymphoma, lymph nodes of multiple sites	Lymphoma
20050	Primary central nervous system lymphoma, unspecified site, extranodal and solid organ sites	Lymphoma
20051	Primary central nervous system lymphoma, lymph nodes of head, face, and neck	Lymphoma
20052	Primary central nervous system lymphoma, intrathoracic lymphnodes	Lymphoma

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
20053	Primary central nervous system lymphoma, intra-abdominal lymph nodes	Lymphoma
20054	Primary central nervous system lymphoma, lymph nodes of axilla and upper limb	Lymphoma
20055	Primary central nervous system lymphoma, lymph nodes of inguinal region and lower limb	Lymphoma
20056	Primary central nervous system lymphoma, intrapelvic lymph nodes	Lymphoma
20057	Primary central nervous system lymphoma, spleen	Lymphoma
20058	Primary central nervous system lymphoma, lymph nodes of multiple sites	Lymphoma
20060	Anaplastic large cell lymphoma, unspecified site, extranodal and solid organ sites	Lymphoma
20061	Anaplastic large cell lymphoma, lymph nodes of head, face, and neck	Lymphoma
20062	Anaplastic large cell lymphoma, intrathoracic lymph nodes	Lymphoma
20063	Anaplastic large cell lymphoma, intra-abdominal lymph nodes	Lymphoma
20064	Anaplastic large cell lymphoma, lymph nodes of axilla and upper limb	Lymphoma
20065	Anaplastic large cell lymphoma, lymph nodes of inguinal region and lower limb	Lymphoma
20066	Anaplastic large cell lymphoma, intrapelvic lymph nodes	Lymphoma
20067	Anaplastic large cell lymphoma, spleen	Lymphoma
20068	Anaplastic large cell lymphoma, lymph nodes of multiple sites	Lymphoma
20070	Large cell lymphoma, unspecified site, extranodal and solid organ sites	Lymphoma
20071	Large cell lymphoma, lymph nodes of head, face, and neck	Lymphoma
20072	Large cell lymphoma, intrathoracic lymph nodes	Lymphoma
20073	Large cell lymphoma, intra-abdominal lymph nodes	Lymphoma
20074	Large cell lymphoma, lymph nodes of axilla and upper limb	Lymphoma
20075	Large cell lymphoma, lymph nodes of inguinal region and lower limb	Lymphoma
20076	Large cell lymphoma, intrapelvic lymph nodes	Lymphoma
20077	Large cell lymphoma, spleen	Lymphoma
20078	Large cell lymphoma, lymph nodes of multiple sites	Lymphoma
2008	Other named variants of lymphosarcoma and reticulosarcom	Lymphoma
20080	Other named variants of lymphosarcoma and reticulosarcom	Lymphoma
20081	Other named variants of lymphosarcoma and reticulosarcom	Lymphoma
20082	Other named variants of lymphosarcoma and reticulosarcom	Lymphoma
20083	Other named variants of lymphosarcoma and reticulosarcom	Lymphoma
20084	Other named variants of lymphosarcoma and reticulosarcom	Lymphoma
20085	Other named variants of lymphosarcoma and reticulosarcom	Lymphoma
20086	Other named variants of lymphosarcoma and reticulosarcom	Lymphoma
20087	Other named variants of lymphosarcoma and reticulosarcom	Lymphoma
20088	Other named variants of lymphosarcoma and reticulosarcom	Lymphoma
201	Hodgkin's disease	Lymphoma
2010	Hodgkin's disease	Lymphoma
20100	Hodgkin's disease	Lymphoma
20101	Hodgkin's disease	Lymphoma
20102	Hodgkin's disease	Lymphoma
20103	Hodgkin's disease	Lymphoma
20104	Hodgkin's disease	Lymphoma
20105	Hodgkin's disease	Lymphoma
20106	Hodgkin's disease	Lymphoma
20107	Hodgkin's disease	Lymphoma
20108	Hodgkin's disease	Lymphoma
2011	Hodgkin's granuloma	Lymphoma
20110	Hodgkin's granuloma	Lymphoma
20111	Hodgkin's granuloma	Lymphoma
20112	Hodgkin's granuloma	Lymphoma
20113	Hodgkin's granuloma	Lymphoma
20114	Hodgkin's granuloma	Lymphoma
20115	Hodgkin's granuloma	Lymphoma
20116	Hodgkin's granuloma	Lymphoma

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
20117	Hodgkin's granuloma	Lymphoma
20118	Hodgkin's granuloma	Lymphoma
2012	Hodgkin's sarcoma	Lymphoma
20120	Hodgkin's sarcoma	Lymphoma
20121	Hodgkin's sarcoma	Lymphoma
20122	Hodgkin's sarcoma	Lymphoma
20123	Hodgkin's sarcoma	Lymphoma
20124	Hodgkin's sarcoma	Lymphoma
20125	Hodgkin's sarcoma	Lymphoma
20126	Hodgkin's sarcoma	Lymphoma
20127	Hodgkin's sarcoma	Lymphoma
20128	Hodgkin's sarcoma	Lymphoma
2014	Hodgkin's disease lymphocytic-histiocytic predominance	Lymphoma
20140	Hodgkin's disease lymphocytic-histiocytic predominance	Lymphoma
20141	Hodgkin's disease lymphocytic-histiocytic predominance	Lymphoma
20142	Hodgkin's disease lymphocytic-histiocytic predominance	Lymphoma
20143	Hodgkin's disease lymphocytic-histiocytic predominance	Lymphoma
20144	Hodgkin's disease lymphocytic-histiocytic predominance	Lymphoma
20145	Hodgkin's disease lymphocytic-histiocytic predominance	Lymphoma
20146	Hodgkin's disease lymphocytic-histiocytic predominance	Lymphoma
20147	Hodgkin's disease lymphocytic-histiocytic predominance	Lymphoma
20148	Hodgkin's disease lymphocytic-histiocytic predominance	Lymphoma
2015	Hodgkin's disease nodular sclerosis	Lymphoma
20150	Hodgkin's disease nodular sclerosis	Lymphoma
20151	Hodgkin's disease nodular sclerosis	Lymphoma
20152	Hodgkin's disease nodular sclerosis	Lymphoma
20153	Hodgkin's disease nodular sclerosis	Lymphoma
20154	Hodgkin's disease nodular sclerosis	Lymphoma
20155	Hodgkin's disease nodular sclerosis	Lymphoma
20156	Hodgkin's disease nodular sclerosis	Lymphoma
20157	Hodgkin's disease nodular sclerosis	Lymphoma
20158	Hodgkin's disease nodular sclerosis	Lymphoma
2016	Hodgkin's disease mixed cellularity	Lymphoma
20160	Hodgkin's disease mixed cellularity	Lymphoma
20161	Hodgkin's disease mixed cellularity	Lymphoma
20162	Hodgkin's disease mixed cellularity	Lymphoma
20163	Hodgkin's disease mixed cellularity	Lymphoma
20164	Hodgkin's disease mixed cellularity	Lymphoma
20165	Hodgkin's disease mixed cellularity	Lymphoma
20166	Hodgkin's disease mixed cellularity	Lymphoma
20167	Hodgkin's disease mixed cellularity	Lymphoma
20168	Hodgkin's disease mixed cellularity	Lymphoma
2017	Hodgkin's disease lymphocytic depletion	Lymphoma
20170	Hodgkin's disease lymphocytic depletion	Lymphoma
20171	Hodgkin's disease lymphocytic depletion	Lymphoma
20172	Hodgkin's disease lymphocytic depletion	Lymphoma
20173	Hodgkin's disease lymphocytic depletion	Lymphoma
20174	Hodgkin's disease lymphocytic depletion	Lymphoma
20175	Hodgkin's disease lymphocytic depletion	Lymphoma
20176	Hodgkin's disease lymphocytic depletion	Lymphoma
20177	Hodgkin's disease lymphocytic depletion	Lymphoma
20178	Hodgkin's disease lymphocytic depletion	Lymphoma
2021	Mycosis fungoides	Lymphoma

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
20210	Mycosis fungoides	Lymphoma
20211	Mycosis fungoides	Lymphoma
20212	Mycosis fungoides	Lymphoma
20213	Mycosis fungoides	Lymphoma
20214	Mycosis fungoides	Lymphoma
20215	Mycosis fungoides	Lymphoma
20216	Mycosis fungoides	Lymphoma
20217	Mycosis fungoides	Lymphoma
20218	Mycosis fungoides	Lymphoma
2022	Sezary's disease	Lymphoma
20220	Sezary's disease	Lymphoma
20221	Sezary's disease	Lymphoma
20222	Sezary's disease	Lymphoma
20223	Sezary's disease	Lymphoma
20224	Sezary's disease	Lymphoma
20225	Sezary's disease	Lymphoma
20226	Sezary's disease	Lymphoma
20227	Sezary's disease	Lymphoma
20228	Sezary's disease	Lymphoma
2023	Malignant histiocytosis	Lymphoma
20230	Malignant histiocytosis	Lymphoma
20231	Malignant histiocytosis	Lymphoma
20232	Malignant histiocytosis	Lymphoma
20233	Malignant histiocytosis	Lymphoma
20234	Malignant histiocytosis	Lymphoma
20235	Malignant histiocytosis	Lymphoma
20236	Malignant histiocytosis	Lymphoma
20237	Malignant histiocytosis	Lymphoma
20238	Malignant histiocytosis	Lymphoma
2024	Leukemic reticuloendotheliosis	Lymphoma
20240	Leukemic reticuloendotheliosis	Lymphoma
20241	Leukemic reticuloendotheliosis	Lymphoma
20242	Leukemic reticuloendotheliosis	Lymphoma
20243	Leukemic reticuloendotheliosis	Lymphoma
20244	Leukemic reticuloendotheliosis	Lymphoma
20245	Leukemic reticuloendotheliosis	Lymphoma
20246	Leukemic reticuloendotheliosis	Lymphoma
20247	Leukemic reticuloendotheliosis	Lymphoma
20248	Leukemic reticuloendotheliosis	Lymphoma
2025	Letterer-siwe disease	Lymphoma
20250	Letterer-siwe disease	Lymphoma
20251	Letterer-siwe disease	Lymphoma
20252	Letterer-siwe disease	Lymphoma
20253	Letterer-siwe disease	Lymphoma
20254	Letterer-siwe disease	Lymphoma
20255	Letterer-siwe disease	Lymphoma
20256	Letterer-siwe disease	Lymphoma
20257	Letterer-siwe disease	Lymphoma
20258	Letterer-siwe disease	Lymphoma
2026	Malignant mast cell tumors	Lymphoma
20260	Malignant mast cell tumors	Lymphoma
20261	Malignant mast cell tumors	Lymphoma
20262	Malignant mast cell tumors	Lymphoma

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
20263	Malignant mast cell tumors	Lymphoma
20264	Malignant mast cell tumors	Lymphoma
20265	Malignant mast cell tumors	Lymphoma
20266	Malignant mast cell tumors	Lymphoma
20267	Malignant mast cell tumors	Lymphoma
20268	Malignant mast cell tumors	Lymphoma
20270	Peripheral T cell lymphoma, unspecified site, extranodal and solid organ sites	Lymphoma
20271	Peripheral T cell lymphoma, lymph nodes of head, face, and neck	Lymphoma
20272	Peripheral T cell lymphoma, intrathoracic lymph nodes	Lymphoma
20273	Peripheral T cell lymphoma, intra-abdominal lymph nodes	Lymphoma
20274	Peripheral T cell lymphoma, lymph nodes of axilla and upper limb	Lymphoma
20275	Peripheral T cell lymphoma, lymph nodes of inguinal region and lower limb	Lymphoma
20276	Peripheral T cell lymphoma, intrapelvic lymph nodes	Lymphoma
20277	Peripheral T cell lymphoma, spleen	Lymphoma
20278	Peripheral T cell lymphoma, lymph nodes of multiple sites	Lymphoma
2029	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue	Lymphoma
20290	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue	Lymphoma
20291	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue	Lymphoma
20292	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue	Lymphoma
20293	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue	Lymphoma
20294	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue	Lymphoma
20295	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue	Lymphoma
20296	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue	Lymphoma
20297	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue	Lymphoma
20298	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue	Lymphoma
230	cancer, Carcinoma in situ of digestive organs	Carcinoma in situ
2300	cancer, Carcinoma in situ of lip, oral cavity, and pharynx	Carcinoma in situ
2301	cancer, Carcinoma in situ of esophagus	Carcinoma in situ
2302	cancer, Carcinoma in situ of stomach	Carcinoma in situ
2303	cancer, Carcinoma in situ of colon	Carcinoma in situ
2304	cancer, Carcinoma in situ of rectum	Carcinoma in situ
2305	cancer, Carcinoma in situ of anal canal	Carcinoma in situ
2306	cancer, Carcinoma in situ of anus, unspecified	Carcinoma in situ
2307	cancer, Carcinoma in situ of other and unspecified parts of intestine	Carcinoma in situ
2308	cancer, Carcinoma in situ of liver and biliary system	Carcinoma in situ
2309	cancer, Carcinoma in situ of other and unspecified digestive organs	Carcinoma in situ
231	cancer, Carcinoma in situ of respiratory system	Carcinoma in situ
2310	cancer, Carcinoma in situ of larynx	Carcinoma in situ
2311	cancer, Carcinoma in situ of trachea	Carcinoma in situ
2312	cancer, Carcinoma in situ of bronchus and lung	Carcinoma in situ
2318	cancer, Carcinoma in situ of other specified parts of respiratory system	Carcinoma in situ
2319	cancer, part unspecified	Carcinoma in situ
233	cancer, Carcinoma in situ of breast and genitourinary system	Carcinoma in situ
2330	cancer, Carcinoma in situ of breast	Carcinoma in situ
2331	cancer, Carcinoma in situ of cervix uteri	Carcinoma in situ
2332	cancer, Carcinoma in situ of other and unspecified parts of uterus	Carcinoma in situ
2333	cancer, Carcinoma in situ of other and unspecified female genital organs	Carcinoma in situ
23330	cancer, Carcinoma in situ, unspecified female genital organ	Carcinoma in situ
23331	cancer, Carcinoma in situ, vagina	Carcinoma in situ
23332	cancer, Carcinoma in situ, vulva	Carcinoma in situ
23339	cancer, Carcinoma in situ, other female genital organ	Carcinoma in situ
2334	cancer, Carcinoma in situ of prostate	Carcinoma in situ
2335	cancer, Carcinoma in situ of penis	Carcinoma in situ

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
2336	cancer, Carcinoma in situ of other and unspecified male genital organs	Carcinoma in situ
2337	cancer, Carcinoma in situ of bladder	Carcinoma in situ
2339	cancer, Carcinoma in situ of other and unspecified urinary organs	Carcinoma in situ
234	cancer, Carcinoma in situ of other and unspecified sites	Carcinoma in situ
2340	cancer, Carcinoma in situ of eye	Carcinoma in situ
2348	cancer, Carcinoma in situ of other specified sites	Carcinoma in situ
2349	cancer, Carcinoma in situ, site unspecified	Carcinoma in situ
286	coagulation defects, Coagulation defects	Coagulation Disorders
2860	coagulation defects, Congenital factor VIII disorder	Coagulation Disorders
2861	coagulation defects, Congenital factor IX disorder	Coagulation Disorders
2862	coagulation defects, Congenital factor XI deficiency	Coagulation Disorders
2863	coagulation defects, Congenital deficiency of other clotting factors	Coagulation Disorders
2864	coagulation defects, Von Willebrand's disease	Coagulation Disorders
2865	coagulation defects, Hemorrhagic disorder due to intrinsic circulating anticoagulants	Coagulation Disorders
28652	coagulation defects, Acquired hemophilia	Coagulation Disorders
28653	coagulation defects, Antiphospholipid antibody with hemorrhagic disorder	Coagulation Disorders
28659	coagulation defects, Other hemorrhagic disorder due to intrinsic circulating anticoagulants, antibodies, or inhibitors	Coagulation Disorders
2866	coagulation defects, Defibrination syndrome	Coagulation Disorders
2867	coagulation defects, Acquired coagulation factor deficiency	Coagulation Disorders
2869	coagulation defects, Other and unspecified coagulation defects	Coagulation Disorders
203	myeloma, Multiple myeloma and immunoproliferative neoplasms	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
2030	Multiple myeloma	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
20300	Multiple myeloma without mention of remission	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
20301	Multiple myeloma in remission	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
20302	Multiple myeloma, in relapse	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
20310	Plasma cell leukemia, without mention of having achieved remission	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
20312	Plasma cell leukemia, in relapse	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
20380	Other immunoproliferative neoplasms, without mention of having achieved remission	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
20382	Other immunoproliferative neoplasms, in relapse	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
2387	neoplasms of other lymphatic and hematopoietic tissues [includes myelodysplastic syndrome]	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
23871	Essential thrombocythemia	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
23872	Low grade myelodysplastic syndrome lesions	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
23873	High grade myelodysplastic syndrome lesions	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
23874	Myelodysplastic syndrome with 5q deletion	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
23875	Myelodysplastic syndrome, unspecified	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
23876	Myelofibrosis with myeloid metaplasia	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
23879	Other lymphatic and hematopoietic tissues	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
28989	Other specified diseases of blood and blood-forming organs [includes myelofibrosis]	Multiple myeloma, Myelodysplastic Syndrome, and Myelofibrosis
2031	Plasma cell leukemia	Leukemia
20310	Plasma cell leukemia without mention of remission	Leukemia
20311	Plasma cell leukemia in remission	Leukemia
2038	Other immunoproliferative neoplasms	Leukemia
20380	Other immunoproliferative neoplasms without mention of remission	Leukemia
20381	Other immunoproliferative neoplasms in remission	Leukemia
204	Lymphoid leukemia	Leukemia
2040	Lymphoid leukemia, acute	Leukemia
20400	Lymphoid leukemia, acute without mention of remission	Leukemia
20401	Lymphoid leukemia, acute in remission	Leukemia
20402	Acute lymphoid leukemia, in relapse	Leukemia
2041	Lymphoid leukemia, chronic	Leukemia
20410	Lymphoid leukemia, chronic without mention of remission	Leukemia
20411	Lymphoid leukemia, chronic in remission	Leukemia
20412	Chronic lymphoid leukemia, in relapse	Leukemia

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
2042	Lymphoid leukemia, subacute	Leukemia
20420	Lymphoid leukemia, subacute without mention of remission	Leukemia
20421	Lymphoid leukemia, subacute in remission	Leukemia
20422	Subacute lymphoid leukemia, in relapse	Leukemia
2048	Lymphoid leukemia, other	Leukemia
20480	Lymphoid leukemia, other without mention of remission	Leukemia
20481	Lymphoid leukemia, other in remission	Leukemia
20482	Other lymphoid leukemia, in relapse	Leukemia
2049	Lymphoid leukemia, unspecified	Leukemia
20490	Lymphoid leukemia, unspecified without mention of remission	Leukemia
20491	Lymphoid leukemia, unspecified in remission	Leukemia
20492	Unspecified lymphoid leukemia, in relapse	Leukemia
205	Myeloid leukemia	Leukemia
2050	Myeloid leukemia, acute	Leukemia
20500	Myeloid leukemia, acute without mention of remission	Leukemia
20501	Myeloid leukemia, acute in remission	Leukemia
20502	Acute myeloid leukemia, in relapse	Leukemia
2051	Myeloid leukemia, chronic	Leukemia
20510	Myeloid leukemia, chronic without mention of remission	Leukemia
20511	Myeloid leukemia, chronic in remission	Leukemia
20512	Chronic myeloid leukemia, in relapse	Leukemia
2052	Myeloid leukemia, subacute	Leukemia
20520	Myeloid leukemia, subacute without mention of remission	Leukemia
20521	Myeloid leukemia, subacute in remission	Leukemia
20522	Subacute myeloid leukemia, in relapse	Leukemia
2053	Myeloid leukemia, myeloid sarcoma	Leukemia
20530	Myeloid leukemia, myeloid sarcoma without mention of remission	Leukemia
20531	Myeloid leukemia, myeloid sarcoma in remission	Leukemia
20532	Myeloid sarcoma, in relapse	Leukemia
2058	Myeloid leukemia, other	Leukemia
20580	Myeloid leukemia, other without mention of remission	Leukemia
20581	Myeloid leukemia, other in remission	Leukemia
20582	Other myeloid leukemia, in relapse	Leukemia
2059	Myeloid leukemia, unspecified	Leukemia
20590	Myeloid leukemia, unspecified without mention of remission	Leukemia
20591	Myeloid leukemia, unspecified in remission	Leukemia
20592	Unspecified myeloid leukemia, in relapse	Leukemia
206	Monocytic leukemia	Leukemia
2060	Monocytic leukemia, acute	Leukemia
20600	Monocytic leukemia, acute without mention of remission	Leukemia
20601	Monocytic leukemia, acute in remission	Leukemia
20602	Acute monocytic leukemia, in relapse	Leukemia
2061	Monocytic leukemia, chronic	Leukemia
20610	Monocytic leukemia, chronic without mention of remission	Leukemia
20611	Monocytic leukemia, chronic in remission	Leukemia
20612	Chronic monocytic leukemia, in relapse	Leukemia
2062	Monocytic leukemia, subacute	Leukemia
20620	Monocytic leukemia, subacute without mention of remission	Leukemia
20621	Monocytic leukemia, subacute in remission	Leukemia

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
20622	Subacute monocytic leukemia, in relapse	Leukemia
2068	Monocytic leukemia, other	Leukemia
20680	Monocytic leukemia, other without mention of remission	Leukemia
20681	Monocytic leukemia, other in remission	Leukemia
20682	Other monocytic leukemia, in relapse	Leukemia
2069	Monocytic leukemia, unspecified	Leukemia
20690	Monocytic leukemia, unspecified without mention of remission	Leukemia
20691	Monocytic leukemia, unspecified in remission	Leukemia
20692	Unspecified monocytic leukemia, in relapse	Leukemia
207	Other specified leukemia	Leukemia
2070	Other specified leukemia, Acute erythremia and erythroleukemia	Leukemia
20700	Other specified leukemia, Acute erythremia and erythroleukemia without mention of remission	Leukemia
20701	Other specified leukemia, Acute erythremia and erythroleukemia in remission	Leukemia
20702	Acute erythremia and erythroleukemia, in relapse	Leukemia
2071	Other specified leukemia, Chronic erythremia	Leukemia
20710	Other specified leukemia, Chronic erythremia without mention of remission	Leukemia
20711	Other specified leukemia, Chronic erythremia in remission	Leukemia
20712	Chronic erythremia, in relapse	Leukemia
2072	Other specified leukemia, Megakaryocytic leukemia	Leukemia
20720	Other specified leukemia, Megakaryocytic leukemia without mention of remission	Leukemia
20721	Other specified leukemia, Megakaryocytic leukemia in remission	Leukemia
20722	Megakaryocytic leukemia, in relapse	Leukemia
2078	Other specified leukemia, Other	Leukemia
20780	Other specified leukemia, Other without mention of remission	Leukemia
20781	Other specified leukemia, Other in remission	Leukemia
20782	Other specified leukemia, in relapse	Leukemia
208	Leukemia of unspecified cell type	Leukemia
2080	Leukemia of unspecified cell type, acute	Leukemia
20800	Leukemia of unspecified cell type, acute without mention of remission	Leukemia
20801	Leukemia of unspecified cell type, acute in remission	Leukemia
20802	Acute leukemia of unspecified cell type, in relapse	Leukemia
2081	Leukemia of unspecified cell type, chronic	Leukemia
20810	Leukemia of unspecified cell type, chronic without mention of remission	Leukemia
20811	Leukemia of unspecified cell type, chronic in remission	Leukemia
20812	Chronic leukemia of unspecified cell type, in relapse	Leukemia
2082	Leukemia of unspecified cell type, subacute	Leukemia
20820	Leukemia of unspecified cell type, subacute without mention of remission	Leukemia
20821	Leukemia of unspecified cell type, subacute in remission	Leukemia
20822	Subacute leukemia of unspecified cell type, in relapse	Leukemia
2088	Leukemia of unspecified cell type, other	Leukemia
20880	Leukemia of unspecified cell type, other without mention of remission	Leukemia
20881	Leukemia of unspecified cell type, other in remission	Leukemia
20882	Other leukemia of unspecified cell type, in relapse	Leukemia
2089	Leukemia of unspecified cell type, unspecified	Leukemia
20890	Leukemia of unspecified cell type, unspecified without mention of remission	Leukemia
20891	Leukemia of unspecified cell type, unspecified in remission	Leukemia
20892	Unspecified leukemia, in relapse	Leukemia

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
140	Malignant neoplasm of lip	Head and Neck Cancer
1400	Malignant neoplasm of lip	Head and Neck Cancer
1401	Malignant neoplasm of lip	Head and Neck Cancer
1402	Malignant neoplasm of lip	Head and Neck Cancer
1403	Malignant neoplasm of lip	Head and Neck Cancer
1404	Malignant neoplasm of lip	Head and Neck Cancer
1405	Malignant neoplasm of lip	Head and Neck Cancer
1406	Malignant neoplasm of lip	Head and Neck Cancer
1408	Malignant neoplasm of lip	Head and Neck Cancer
1409	Malignant neoplasm of lip	Head and Neck Cancer
141	Malignant neoplasm of tongue	Head and Neck Cancer
1410	Malignant neoplasm of tongue	Head and Neck Cancer
1411	Malignant neoplasm of tongue	Head and Neck Cancer
1412	Malignant neoplasm of tongue	Head and Neck Cancer
1413	Malignant neoplasm of tongue	Head and Neck Cancer
1414	Malignant neoplasm of tongue	Head and Neck Cancer
1415	Malignant neoplasm of tongue	Head and Neck Cancer
1416	Malignant neoplasm of tongue	Head and Neck Cancer
1418	Malignant neoplasm of tongue	Head and Neck Cancer
1419	Malignant neoplasm of tongue	Head and Neck Cancer
142	Malignant neoplasm of major salivary glands	Head and Neck Cancer
1420	Malignant neoplasm of major salivary glands	Head and Neck Cancer
1421	Malignant neoplasm of major salivary glands	Head and Neck Cancer
1422	Malignant neoplasm of major salivary glands	Head and Neck Cancer
1428	Malignant neoplasm of major salivary glands	Head and Neck Cancer
1429	Malignant neoplasm of major salivary glands	Head and Neck Cancer
143	Malignant neoplasm of gum	Head and Neck Cancer
1430	Malignant neoplasm of gum	Head and Neck Cancer
1431	Malignant neoplasm of gum	Head and Neck Cancer
1438	Malignant neoplasm of gum	Head and Neck Cancer
1439	Malignant neoplasm of gum	Head and Neck Cancer
144	Malignant neoplasm of floor of mouth	Head and Neck Cancer
1440	Malignant neoplasm of floor of mouth	Head and Neck Cancer
1441	Malignant neoplasm of floor of mouth	Head and Neck Cancer
1448	Malignant neoplasm of floor of mouth	Head and Neck Cancer
1449	Malignant neoplasm of floor of mouth	Head and Neck Cancer
145	Malignant neoplasm of other and unspecified parts of mouth	Head and Neck Cancer
1450	Malignant neoplasm of other and unspecified parts of mouth	Head and Neck Cancer
1451	Malignant neoplasm of other and unspecified parts of mouth	Head and Neck Cancer
1452	Malignant neoplasm of other and unspecified parts of mouth	Head and Neck Cancer
1453	Malignant neoplasm of other and unspecified parts of mouth	Head and Neck Cancer
1454	Malignant neoplasm of other and unspecified parts of mouth	Head and Neck Cancer
1455	Malignant neoplasm of other and unspecified parts of mouth	Head and Neck Cancer
1456	Malignant neoplasm of other and unspecified parts of mouth	Head and Neck Cancer
1458	Malignant neoplasm of other and unspecified parts of mouth	Head and Neck Cancer
1459	Malignant neoplasm of other and unspecified parts of mouth	Head and Neck Cancer
146	Malignant neoplasm of oropharynx	Head and Neck Cancer
1460	Malignant neoplasm of oropharynx	Head and Neck Cancer
1461	Malignant neoplasm of oropharynx	Head and Neck Cancer
1462	Malignant neoplasm of oropharynx	Head and Neck Cancer
1463	Malignant neoplasm of oropharynx	Head and Neck Cancer
1464	Malignant neoplasm of oropharynx	Head and Neck Cancer
1465	Malignant neoplasm of oropharynx	Head and Neck Cancer

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
1466	Malignant neoplasm of oropharynx	Head and Neck Cancer
1467	Malignant neoplasm of oropharynx	Head and Neck Cancer
1468	Malignant neoplasm of oropharynx	Head and Neck Cancer
1469	Malignant neoplasm of oropharynx	Head and Neck Cancer
147	Malignant neoplasm of nasopharynx	Head and Neck Cancer
1470	Malignant neoplasm of nasopharynx	Head and Neck Cancer
1471	Malignant neoplasm of nasopharynx	Head and Neck Cancer
1472	Malignant neoplasm of nasopharynx	Head and Neck Cancer
1473	Malignant neoplasm of nasopharynx	Head and Neck Cancer
1478	Malignant neoplasm of nasopharynx	Head and Neck Cancer
1479	Malignant neoplasm of nasopharynx	Head and Neck Cancer
148	Malignant neoplasm of hypopharynx	Head and Neck Cancer
1480	Malignant neoplasm of hypopharynx	Head and Neck Cancer
1481	Malignant neoplasm of hypopharynx	Head and Neck Cancer
1482	Malignant neoplasm of hypopharynx	Head and Neck Cancer
1483	Malignant neoplasm of hypopharynx	Head and Neck Cancer
1488	Malignant neoplasm of hypopharynx	Head and Neck Cancer
1489	Malignant neoplasm of hypopharynx	Head and Neck Cancer
149	Malignant neoplasm of other and ill-defined sites within the lip oral cavity and pharynx	Head and Neck Cancer
1490	Malignant neoplasm of other and ill-defined sites within the lip oral cavity and pharynx	Head and Neck Cancer
1491	Malignant neoplasm of other and ill-defined sites within the lip oral cavity and pharynx	Head and Neck Cancer
1498	Malignant neoplasm of other and ill-defined sites within the lip oral cavity and pharynx	Head and Neck Cancer
1499	Malignant neoplasm of other and ill-defined sites within the lip oral cavity and pharynx	Head and Neck Cancer
160	Malignant neoplasm of nasal cavities middle ear and accessory sinuses	Head and Neck Cancer
1600	Malignant neoplasm of nasal cavities middle ear and accessory sinuses	Head and Neck Cancer
1601	Malignant neoplasm of nasal cavities middle ear and accessory sinuses	Head and Neck Cancer
1602	Malignant neoplasm of nasal cavities middle ear and accessory sinuses	Head and Neck Cancer
1603	Malignant neoplasm of nasal cavities middle ear and accessory sinuses	Head and Neck Cancer
1604	Malignant neoplasm of nasal cavities middle ear and accessory sinuses	Head and Neck Cancer
1605	Malignant neoplasm of nasal cavities middle ear and accessory sinuses	Head and Neck Cancer
1608	Malignant neoplasm of nasal cavities middle ear and accessory sinuses	Head and Neck Cancer
1609	Malignant neoplasm of nasal cavities middle ear and accessory sinuses	Head and Neck Cancer
161	Malignant neoplasm of larynx	Head and Neck Cancer
1610	Malignant neoplasm of larynx	Head and Neck Cancer
1611	Malignant neoplasm of larynx	Head and Neck Cancer
1612	Malignant neoplasm of larynx	Head and Neck Cancer
1613	Malignant neoplasm of larynx	Head and Neck Cancer
1618	Malignant neoplasm of larynx	Head and Neck Cancer
1619	Malignant neoplasm of larynx	Head and Neck Cancer
164	Malignant neoplasm of thymus heart and mediastinum	Head and Neck Cancer
1640	Malignant neoplasm of thymus heart and mediastinum	Head and Neck Cancer
1641	Malignant neoplasm of thymus heart and mediastinum	Head and Neck Cancer
1642	Malignant neoplasm of thymus heart and mediastinum	Head and Neck Cancer
1643	Malignant neoplasm of thymus heart and mediastinum	Head and Neck Cancer
1648	Malignant neoplasm of thymus heart and mediastinum	Head and Neck Cancer
1649	Malignant neoplasm of thymus heart and mediastinum	Head and Neck Cancer
165	Malignant neoplasm of other and ill-defined sites within the respiratory system and intrathoracic organs	Head and Neck Cancer
1650	Malignant neoplasm of other and ill-defined sites within the respiratory system and intrathoracic organs	Head and Neck Cancer
1658	Malignant neoplasm of other and ill-defined sites within the respiratory system and intrathoracic organs	Head and Neck Cancer
1659	Malignant neoplasm of other and ill-defined sites within the respiratory system and intrathoracic organs	Head and Neck Cancer

[illegible]

ICD-9 CODE	DIAGNOSIS	Broad category used in MIF/ MJF
1922	Malignant neoplasm of other and unspecified parts of nervous system	Other Cancers (connective tissue, skin, and others)
1923	Malignant neoplasm of other and unspecified parts of nervous system	Other Cancers (connective tissue, skin, and others)
1928	Malignant neoplasm of other and unspecified parts of nervous system	Other Cancers (connective tissue, skin, and others)
1929	Malignant neoplasm of other and unspecified parts of nervous system	Other Cancers (connective tissue, skin, and others)
1940	Malignant neoplasm of other endocrine glands and related structures	Other Cancers (connective tissue, skin, and others)
1943	Malignant neoplasm of other endocrine glands and related structures	Other Cancers (connective tissue, skin, and others)
1944	Malignant neoplasm of other endocrine glands and related structures	Other Cancers (connective tissue, skin, and others)
196	Secondary and unspecified malignant neoplasm of lymph node	Metastatic Cancer
1960	Secondary and unspecified malignant neoplasm of lymph node	Metastatic Cancer
1961	Secondary and unspecified malignant neoplasm of lymph node	Metastatic Cancer
1962	Secondary and unspecified malignant neoplasm of lymph node	Metastatic Cancer
1963	Secondary and unspecified malignant neoplasm of lymph node	Metastatic Cancer
1965	Secondary and unspecified malignant neoplasm of lymph node	Metastatic Cancer
1966	Secondary and unspecified malignant neoplasm of lymph node	Metastatic Cancer
1968	Secondary and unspecified malignant neoplasm of lymph node	Metastatic Cancer
1969	Secondary and unspecified malignant neoplasm of lymph node	Metastatic Cancer
197	Secondary malignant neoplasm of respiratory and digestive system	Metastatic Cancer
1970	Secondary malignant neoplasm of respiratory and digestive system	Metastatic Cancer
1971	Secondary malignant neoplasm of respiratory and digestive system	Metastatic Cancer
1972	Secondary malignant neoplasm of respiratory and digestive system	Metastatic Cancer
1973	Secondary malignant neoplasm of respiratory and digestive system	Metastatic Cancer
1974	Secondary malignant neoplasm of respiratory and digestive system	Metastatic Cancer
1975	Secondary malignant neoplasm of respiratory and digestive system	Metastatic Cancer
1976	Secondary malignant neoplasm of respiratory and digestive system	Metastatic Cancer
1977	Secondary malignant neoplasm of respiratory and digestive system	Metastatic Cancer
1978	Secondary malignant neoplasm of respiratory and digestive system	Metastatic Cancer
198	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
1980	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
1981	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
1982	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
1983	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
1984	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
1985	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
1986	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
1987	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
1988	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
19881	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
19882	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
19889	Secondary malignant neoplasm of other specified sites	Metastatic Cancer
199	Malignant neoplasm without specification of site	Metastatic Cancer
1990	Malignant neoplasm without specification of site	Metastatic Cancer
2826	Sickle-cell disease	Sickle cell anemia
28260	Sickle-cell disease, unspecified	Sickle cell anemia
28261	Sickle-cell disease, Hb-SS disease without crisis	Sickle cell anemia
28262	Sickle-cell disease, Hb-SS disease with crisis	Sickle cell anemia
28263	Sickle-cell disease, Sickle-cell/Hb-C disease without crisis	Sickle cell anemia
28264	Sickle-cell disease, Sickle-cell/Hb-C disease with crisis	Sickle cell anemia
28268	Sickle-cell disease, Other sickle-cell disease without crisis	Sickle cell anemia
28269	Sickle-cell disease, Other sickle-cell disease with crisis	Sickle cell anemia