eMaRC Plus
Physician Reporting Module

MU2 & MU3 Mapping and Translation

National Center for Chronic Disease Prevention and Health Promotion
Division of Cancer Prevention and Control

Contents

Meaningful Use Stage 2 (MU2): Data Elements Table....11

Demographics....11
Reporting Source....13
Cancer Diagnosis and Stage....14
Medical....16
Treatment....17
Follow-up....19

Meaningful Use Stage 3 (MU3): Data Elements Table....20

Demographics....20
Reporting Source....22
Cancer Diagnosis and Stage....23
Medical....25
Treatment....26
Follow-up....28

Translation and Mapping Rules (MU2)....29

Name--Last [#2230]....29
Name--Suffix [#2270]....29
Name--First [#2240]....29
Name--Middle [#2250]....29
Name--Maiden [#2390]....29
Name--Alias [#2280]....29
Telephone [#2360]....30
Addr at Dx--No & Street [#2330]....30
Addr at DX--Supplementl [#2335]....30
Addr at DX--City [#70]....30
Addr at Dx--State [#1820]....30
Addr at Dx--Postal Code [#1830]....30
Addr at Dx--Country [#102]....30
Addr at Dx--County [#96]....30
Addr at DX--Supplementl [#2335]....30
Addr Current--No & Street [#2350]....30
Addr Current--City [#1810]....30
Addr Current--State [#1820]....30
Addr Current--Postal Code [#1830]....30
Addr Current--Country [#1832]....30
Patient Sex/Gender [#220]....31
Patient Date of Birth [#240]....32
Patient Age at Diagnosis [#230]....32
Medical Record Number [#2300]....32
Social Security Number [#2320]....32
Medicare Beneficiary Number [#2315]....32
Birthplace State [#252]....32
Birthplace Country [#254]....32
Marital Status at Diagnosis [#150]....33
Race 1 [#160]....33
Race 2 [#161]....33

Race 3 [#162] 33
Race 4 [#163] 33
Race 5 [#164] 33
Spanish/Hispanic Origin [#190] 33
Census Occ Code 1970-2000 [#270] 34
Census Occ Code 2010 CDC [#282] 34
Text--Usual Occupation [#310] 34
Occupation Source [#290] 34
Census Ind Code 1970-2000 [#280] 35
Census Ind Code 2010 [#272] 35
Text--Usual Industry [#320] 35
Industry Source [#300] 35
Census Occ/Ind Sys 70-00 [#330] 35
Primary Payer at Diagnosis [#630] 36
Date of Diagnosis [#390] 36
Histologic Type ICD-O-3 [#522] 37
Behavior Code ICD-O-3 [#523] 37
Diagnostic Confirmation ICD-O-3 [#490] 37
Grade [#440] 37
Grade Clinical [#3843] 37
Grade Pathological [#3844] 37
Grade PostRx [#3845] 37
Text--Histology Title [#2590] 37
Text--DX Proc--Path [#2570] 37
Text--Staging [#2600] 37
Primary Site [#400] 40
Laterality [#410] 40
Text--Primary Site Title [#2580] 40
CLINICAL TNM STAGING 41
TNM Edition Number [#1060] 41
7th Edition – CLINICAL TNM Staging 42
TNM Clin Stage Group [#970] 42
TNM Clin Descriptor [#980] 42
TNM Clin Staged By [#990] 42
TNM Clin T [#940] 42
TNM Clin N [#950] 42
TNM Clin M [#960] 42
8th Edition – CLINICAL TNM Staging 44
AJCC TNM Clin Stage Group [#1004] 44
TNM Clin Staged By [#990] 44
AJCC TNM Clin T [#1001] 44
AJCC TNM Clin N [#1002] 44
AJCC TNM Clin M [#1003] 44
AJCC ID [#995] 44
Schema ID [#3800] 44
Set Default Values for AJCC TNM Clinical Elements 45
Text Staging [#2600] 46
PATHOLOGIC TNM STAGING 46
AJCC TNM Path Stage Group [#1014] 46
TNM Path Staged By [#930] 46

AJCC TNM Path T [#1011] 46
AJCC TNM Path N [#1012] 46
AJCC TNM Path M [#1013] 46
TNM Edition Number [#1060] 46
Set Default Values for AJCC TNM Pathological Elements 46
Summary Stage 47
Summary Stage 2000 [#759] 47
Summary Stage 2018 [#764] 49
RX Summ--Surg Prim Site [#1290] 50
RX Hosp--Surg Prim Site [#670] 50
RX Date Surg [#1200] 50
RX Date Surg Flag [#1201] 50
RX Date Mst Defn Srg [#3170] 50
RX Date Mst Defn Srg Flag [#3171] 50
Text--DX Proc--Op [#2560] 50
RX Text--Surgery [#2610] 50
Reason for No Surgery [#1340] 50
Radiation Therapy 56
Rad--Regional RX Modality [#1570] (2017 and earlier) 57
RX Summ--Radiation [#1360] 57
RX Date Radiation [#1210] 57
RX Date Radiation Flag [#1211] 57
Reason for No Radiation [#1430] 57
RX Text--Radiation (Beam) [#2620] 57
RX Text--Radiation Other [#2630] 57
Phase I Radiation Treatment Modality [#1506] (2018+) 61
RX Date Radiation [#1210] 61
RX Date Radiation Flag [#1211] 61
Reason for No Radiation [#1430] 61
RX Text--Radiation (Beam) [#2620] 61
RX Text--Radiation Other [#2630] 61
RX Hosp--Chemo [#700] 65
RX Summ--Chemo [#1390] 65
RX Date Chemo [#1220] 65
RX Date Chemo Flag [#1221] 65
RX Text--Chemo [#2640] 65
RX Hosp--Hormone [#710] 65
RX Summ--Hormone [#1400] 65
RX Date Hormone [#1230] 65
RX Date Hormone Flag [#1231] 65
RX Text--Hormone [#2650] 65
RX Hosp--BRM [#720] 65
RX Summ--BRM [#1410] 65
RX Date BRM [#1240] 65
RX Date BRM Flag [#1241] 65
RX Text--BRM [#2660] 65
RX Hosp--Other [#730] 65
RX Summ--Other [#1420] 65
RX Date Other [#1250] 65
RX Date Other Flag [#1251] 65

RX Text--Other [#2670] 65
Medications Administered Section Rules 66
Medications Section Rules 69
Finalize Systemic (Chemotherapy/Medication) Treatment Rules 71
RX Summ--Surg/Rad Seq [#1380] 72
RX Summ--Systemic/Sur Seq [#1639] 72
Surgery/Radiation Sequence Rules 72
Systemic/Surgery Treatment Sequence Rules 73
Date Initial RX SEER [#1260] 74
Date Initial RX SEER Flag [#1261] 74
Date 1st CRS RX CoC [#1270] 74
Date 1st CRS RX CoC Flag [#1271] 74
RX Summ--Treatment Status [#1285] 74
Comorbid/Complication 1 [#3110] 75
Comorbid/Complication 2 [#3120] 75
Comorbid/Complication 3 [#3130] 75
Comorbid/Complication 4 [#3140] 75
Comorbid/Complication 5 [#3150] 75
Comorbid/Complication 6 [#3160] 75
Comorbid/Complication 7 [#3161] 75
Comorbid/Complication 8 [#3162] 75
Comorbid/Complication 9 [#3163] 75
Comorbid/Complication 10 [#3164] 75
Secondary Diagnosis 1 [#3780] 75
Secondary Diagnosis 2 [#3782] 75
Secondary Diagnosis 3 [#3784] 75
Secondary Diagnosis 4 [#3786] 75
Secondary Diagnosis 5 [#3788] 75
Secondary Diagnosis 6 [#3790] 75
Secondary Diagnosis 7 [#3792] 75
Secondary Diagnosis 8 [#3794] 75
Secondary Diagnosis 9 [#3796] 75
Secondary Diagnosis 10 [#3798] 75
Text--DX Proc--PE [#2520] 75
Date of 1st Contact [#580] 77
Date of Last Contact [#1750] 77
NPI--Reporting Facility [#545] 77
Text--Place of Diagnosis [#2690] 77
EHR Vendor Name, Software and Version [NAACCR Item #2508] 78
EHR Reporting (columns 5115-5194) 78
NPI--Physician--Managing [#2465] 78
NPI--Physician--Follow Up [#2475] 78
NPI--Physician 3 [#2495] 78
NPI--Physician 4 [#2505] 78
Text--Remarks [#2680] 78
NPI--Inst Referred From [#2415] 80
NPI--Inst Referred To [#2425] 80
Text--Remarks [#2680] 80
Date Case Report Exported [#2110] 81
MU VERSION [#2508] 81

EHR Reporting (columns 5105 - 6104) 81
NAACCR Text Data Items: (See above for specific rules.) 81

Translation and Mapping Rules (MU3) 84

Name--Last [#2230] 84
Name--Suffix [#2270] 84
Name--First [#2240] 84
Name--Middle [#2250] 84
Name--Maiden [#2390] 84
Name--Alias [#2280] 84
Telephone [#2360] 85
Addr at Dx--NO & Street [#2330] 85
Addr at DX--Supplementl [#2335] 85
Addr at DX--City [#70] 85
Addr at Dx--State [#1820] 85
Addr at Dx--Postal Code [#1830] 85
Addr at Dx--Country [#102] 85
Addr at Dx--County [#96] 85
Addr at DX--Supplementl [#2335] 85
Addr Current--No & Street [#2350] 85
Addr Current--City [#1810] 85
Addr Current--State [#1820] 85
Addr Current--Postal Code [#1830] 85
Addr Current--Country [#1832] 85
Patient Sex/Gender [#220] 87
Patient Date of Birth [#240] 87
Patient Age at Diagnosis [#230] 87
Medical Record Number [#2300] 87
Social Security Number [#2320] 87
Medicare Beneficiary Number [#2315] 87
Birthplace State [#252] 88
Birthplace Country [#254] 88
Marital Status at Diagnosis [#150] 88
Race 1 [#160] 88
Race 2 [#161] 88
Race 3 [#162] 88
Race 4 [#163] 88
Race 5 [#164] 88
Spanish/Hispanic Origin [#190] 89
Census Occ Code 2010 CDC [#282] 89
Text--Usual Occupation [#310] 89
Occupation Source [#290] 89
Census Ind Code 2010 CDC [#272] 89
Text--Usual Industry [#320] 89
Industry Source [#300] 89
Census Occ/Ind Sys 70-00 [#330] 89
Primary Payer at Diagnosis [#630] 90
Date of Diagnosis [#390] 90
Histologic Type ICD-O-3 [#522] 91
Behavior Code ICD-O-3 [#523] 91

Diagnostic Confirmation ICD-O-3 [#490] 91
Grade [#440] 91
Grade Clinical [#3843] 91
Grade Pathological [#3844] 91
Grade PostRx [#3845] 91
Text--Histology Title [#2590] 91
Text--DX Proc--Path [#2570] 91
Primary Site [#400] 94
Laterality [#410] 94
Text--Primary Site Title [#2580] 94
CLINICAL TNM STAGING 95
TNM Edition Number [#1060] 95
7th Edition – CLINICAL TNM Staging 97
TNM Clin Stage Group [#970] 97
TNM Clin Descriptor [#980] 97
TNM Clin Staged By [#990] 97
TNM Clin T [#940] 97
TNM Clin N [#950] 97
TNM Clin M [#960] 97
8th Edition CLINICAL TNM Staging 98
AJCC TNM Clin Stage Group [#1004] 98
TNM Clin Staged By [#990] 98
AJCC TNM Clin T [#1001] 98
AJCC TNM Clin N [#1002] 98
AJCC TNM Clin M [#1003] 98
AJCC ID [#995] 98
Schema ID [#3800] 98
Set Default Values for AJCC TNM Clinical Elements 100
Text Staging [#2600] 100
PATHOLOGIC TNM STAGING 101
TNM Edition Number [#1060] 101
7th Edition – PATHOLOGIC TNM Staging 102
TNM Path Stage Group [#910] 102
TNM Path Descriptor [#920] 102
TNM Edition Number [#1060] 102
TNM Path Staged By [#930] 102
TNM Path T [#880] 102
TNM Path N [#890] 102
TNM Path M [#900] 102
8th Edition PATHOLOGIC TNM Staging 103
AJCC TNM Path Stage Group [#1014] 103
TNM Path Staged By [#930] 103
AJCC TNM Path T [#1011] 103
AJCC TNM Path N [#1012] 103
AJCC TNM Path M [#1013] 103
AJCC ID [#995] 103
Schema ID [#3800] 103
Set Default Values for AJCC TNM Pathological Elements 104
Text Staging [#2600] 105
State Specific Data Items (SSDI) 106

Summary Stage....106
Summary Stage 2000 [#759]....106
Summary Stage 2018 [#764]....107
RX Summ--Surg Prim Site [#1290]....109
RX Hosp--Surg Prim Site [#670]....109
RX Date Surg [#1200] 109
RX Date Surg Flag [#1201] 109
RX Date Mst Defn Srg [#3170]....109
RX Date Mst Defn Srg Flag [#3171]....109
Text--DX Proc--Op [#2560]....109
RX Text--Surgery [#2610]....109
Reason for No Surgery [#1340]....109
Radiation Therapy....115
Rad--Regional RX Modality [#1570] (2017 and earlier)....116
Rad--Boost RX Modality [#3200] (2017 and earlier)....116
RX Hosp--Radiation [#690] (2017 and earlier) 116
RX Summ--Radiation [#1360] (2017 and earlier) 116
RX Date Radiation [#1210]....116
RX Date Radiation Flag [#1211]....116
Reason for No Radiation [#1430] 116
RX Text--Radiation (Beam) [#2620] 116
RX Text--Radiation Other [#2630] 116
Phase I Radiation Treatment Modality [#1506] (2018+) 116
Rad--Regional RX Modality [#1570] 116
RX Text--Radiation (Beam) [#2620] 116
RX Text--Radiation Other [#2630] 116
Rad--Boost RX Modality [#3200] 120
RX Text--Radiation (Beam) [#2620] 120
RX Text--Radiation Other [#2630] 120
Populate Radiation Regional Treatment Modality from entries in the Procedure Section 123
RX Hosp--Radiation [#690]....126
RX Summ--Radiation [#1360]....126
RX Date Radiation [#1210]....126
RX Date Radiation Flag [#1211]....126
Reason for No Radiation [#1430] 126
RX Text--Radiation (Beam) [#2620] 126
RX Text--Radiation Other [#2630] 126
Phase I Radiation Treatment Modality [#1506] (2018+) 127
RX Date Radiation [#1210]....127
RX Date Radiation Flag [#1211]....127
Reason for No Radiation [#1430] 127
RX Text--Radiation (Beam) [#2620] 127
RX Text--Radiation Other [#2630] 127
Populate Phase I Radiation Treatment Modality from entries in the Radiation Oncology Section 127
Populate Phase I Radiation Treatment Modality from entries in the Procedure Section 130
Final steps for processing Radiation Therapy for cases diagnosed 2018+ ...133
RX Hosp--Chemo [#700] 134
RX Summ--Chemo [#1390] 134
RX Date Chemo [#1220] 134

RX Date Chemo Flag [#1221] 134
RX Text--Chemo [#2640] 134
RX Hosp--Hormone Therapy [#710] 134
RX Summ--Hormone Therapy [#1400] 134
RX Date Hormone [#1230] 134
RX Date Hormone Flag [#1231] 134
RX Text--Hormone [#2650] 134
RX Hosp--BRM [#720] 134
RX Summ--BRM [#1410] 134
RX Date BRM [#1240] 134
RX Date BRM Flag [#1241] 134
RX Text--BRM [#2660] 134
RX Hosp--Other [#730] 134
RX Summ--Other [#1420] 134
RX Date Other [#1250] 134
RX Date Other Flag [#1251] 134
RX Text--Other [#2670] 134
Medications Section Rules 137
Finalize Systemic (Chemotherapy/Medication) Treatment Rules 139
RX Summ--Surg/Rad Seq [#1380] 140
RX Summ--Systemic/Sur Seq [#1639] 140
Surgery/Radiation Sequence Rules 140
Systemic/Surgery Treatment Sequence Rules 141
Date Initial RX SEER [#1260] 142
Date Initial RX SEER Flag [#1261] 142
Date 1st Crs RX CoC [#1270] 142
Date 1st Crs RX CoC Flag [#1271] 142
RX Summ--Treatment Status [#1285] 142
Comorbid/Complication 1 [#3110] 143
Comorbid/Complication 2 [#3120] 143
Comorbid/Complication 3 [#3130] 143
Comorbid/Complication 4 [#3140] 143
Comorbid/Complication 5 [#3150] 143
Comorbid/Complication 6 [#3160] 143
Comorbid/Complication 7 [#3161] 143
Comorbid/Complication 8 [#3162] 143
Comorbid/Complication 9 [#3163] 143
Comorbid/Complication 10 [#3164] 143
Secondary Diagnosis 1 [#3780] 143
Secondary Diagnosis 2 [#3782] 143
Secondary Diagnosis 3 [#3784] 143
Secondary Diagnosis 4 [#3786] 143
Secondary Diagnosis 5 [#3788] 143
Secondary Diagnosis 6 [#3790] 143
Secondary Diagnosis 7 [#3792] 143
Secondary Diagnosis 8 [#3794] 143
Secondary Diagnosis 9 [#3796] 143
Secondary Diagnosis 10 [#3798] 143
Text--DX Proc--PE [#2520] 143
Date of 1st Contact [#580] 145

Date of Last Contact [#1750] 145
Vital Status [#1760] 146
Vendor/Device 146
Vendor Name [#2170] 146
Reporting Facility [#540] 146
NPI--Reporting Facility [#545] 146
Text--Place of Diagnosis [#2690] 146
EHR Vendor Name, Software and Version [NAACCR Item #2508] 147
EHR Reporting (columns 5115-5194) 147
NPI--Physician--Managing [#2465] 147
NPI--Physician--Follow Up [#2475] 147
NPI--Physician 3 [#2495] 147
NPI--Physician 4 [#2505] 147
Text--Remarks [#2680] 147
NPI--Inst Referred From [#2415] 148
NPI--Inst Referred To [#2425] 149
Text--Remarks [#2680] 149
Date Case Report Exported [#2110] 149
MU VERSION [NAACCR Item # 2508] 150
EHR Reporting (columns 5105 - 6104) 150
Vital Signs 150
Text--DX Proc--PE [#2520] 150
Planned Procedures and Medications 151
RX Text--Other [#2670] 151
NAACCR Text Data Items: (See above for specific rules) 151

Meaningful Use Stage 2 (MU2): Data Elements Table

The tables below contain the NAACCR data elements for which eMaRC Plus has translation tables and/or mapping rules for MU Stage 2.

Demographics

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table	Mapping Rules? (Yes/No)
2110	Date Case Report Exported	Document effective time	None	Yes
2230	Name--Last	Patient Last Name	None	Yes
2270	Name--Suffix	Patient Name Suffix	None	Yes
2240	Name--First	Patient First Name	None	Yes
2250	Name--Middle	Patient Middle Name	None	Yes
2390	Name--Maiden	Patient Maiden Name	None	Yes
2280	Name--Alias	Patient Name Alias	None	Yes
2350	Addr Current--No & Street	Patient Street Address	None	Yes
2330	Addr at Dx--No & Street	Patient Street Address	None	Yes
2355	Addr Current--Supplementl	Patient Street Address	None	Yes
2335	Addr at Dx--Supplementl	Patient Street Address	None	Yes
1810	Addr Current--City	Patient City	None	Yes
70	Addr at Dx--City	Patient City	None	Yes
1820	Addr Current--State	Patient State	None	Yes
80	Addr at Dx--State	Patient State	None	Yes
1830	Addr Current--Postal Code	Patient Zip Code	None	Yes
100	Addr at Dx--Postal Code	Patient Zip Code	None	Yes
1832	Addr Current--Country	Patient Country	None	Yes
102	Addr at Dx--Country	Patient Country	None	Yes
2360	Telephone	Patient Telephone	None	Yes
96	countyAtDxGeocode2010	County Code	None	Yes
220	Sex	Patient Sex/Gender	TRANS_SEX	Yes
240	Date of Birth	Patient Date of Birth	None	Yes
230	Age at Diagnosis	See Translation and Mapping Rules (MU2)	None	Yes
2300	Medical Record Number	Patient Medical Record Number	None	Yes
2320	Social Security Number	Patient Social Security Number	None	Yes
2315	Medicare Beneficiary Identifier	Medicare Beneficiary Identifier	None	Yes
160	Race 1	Patient Race1	TRANS_RACE_CDA	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table	Mapping Rules? (Yes/No)
161	Race 2	sdtc:race2 (raceCode extension)	TRANS_RACE_CDA	Yes
162	Race 3	sdtc:race3 (raceCode extension)	TRANS_RACE_CDA	Yes
163	Race 4	sdtc:race4 (raceCode extension)	TRANS_RACE_CDA	Yes
164	Race 5	sdtc:race5 (raceCode extension)	TRANS_RACE_CDA	Yes
190	Spanish/Hispanic Origin	Patient Ethnicity	1. Code System OID=2.16.840.1.113883.6.238: TRANS_SPANISH_CDC_CDA 2. Code System OID=2.16.840.1.113883.12.189: TRANS_SPANISH_HL7_CDA	Yes
252	Birthplace--State	Birthplace State	None	Yes
254	Birthplace--Country	Birthplace Country	None	Yes
150	Marital Status at DX	Patient Marital Status	TRANS_MARITALSTATUS_CDA	Yes
		Coded Social History Section		
2520	Text--DX Proc--PE	Social History Narrative	None	Yes
270	Census Occ Code 1970-2000	Occupation code	None	Yes
282	Census Occ Code 2010 CDC	Occupation code	None	Yes
310	Text--Usual Occupation	Occupation-Original Text	None	Yes
290	Occupation Source	None	None	Yes
280	Census Ind Code 1970-2000	Industry code	None	Yes
272	Census Ind Code 2010 CDC	Industry code	None	Yes
320	Text--Usual Industry	Industry –Original Text	None	Yes
300	Industry Source	None	None	Yes
330	Census Occ/Ind Sys 70-00	Occupation Code System OID	None	Yes
		Payers Section		
630	Primary Payer at DX	Payer Type	2.16.840.1.113883.3.221.5: TRANS_PAYER_TYPOLOGY_CDA 2.16.840.1.113883.6.255.1336 or	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table	Mapping Rules? (Yes/No)
			2.16.840.1.113883.6.255: TRANS_X12_CDA 2.16.840.1.113883.5.4: TRANS_PAYER_ACT_CODE	

Reporting Source

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
2460	Physician--Managing	None	State specific values: States can build a translation table from the NPI to their local codes	No
2470	Physician--Follow-Up	None	State specific values: States can build a translation table from the NPI to their local codes	No
2490	Physician 3	None	State specific values: States can build a translation table from the NPI to their local codes	No
2500	Physician 4	None	State specific values: States can build a translation table from the NPI to their local codes	No
2465	NPI--Physician--Managing	• CDA Author • ServiceEvent/Performer • EncompassingEncounter/responsibleParty	None	Yes
2475	NPI--Physician--Follow-Up	• CDA Author • ServiceEvent/Performer • EncompassingEncounter/responsibleParty	None	Yes
2495	NPI--Physician 3	• CDA Author • ServiceEvent/Performer • EncompassingEncounter/responsibleParty	None	Yes
2505	NPI--Physician 4	• CDA Author	None	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
		• ServiceEvent/Performer • EncompassingEncounter/responsibleParty		
2680	Text Remarks	Physician Name (Various)	None	Yes
540	Reporting Facility (i.e., FIN number)	Custodian NPI and Name mapping to FIN	State specific values: States **MUST** map these through the Manage Facility feature	Manage Facility feature
545	NPI--Reporting Facility	Reporting Organization NPI (Custodian)	None	Yes
2410	Institution Referred From	Facility Referred From (encmpassingEncounter)	State specific values: States can build a translation table from the NPI to their local codes	No
2415	NPI--Inst Referred From	Provider Referred From ID (NPI)	None	Yes
2690	Text Place of Diagnosis	Reporting Organization (Custodian) Name	None	Yes
580	Date of First Contact	See Translation and Mapping Rules (MU2)	None	Yes
1750	Date of Last Contact	See Translation and Mapping Rules (MU2)	None	Yes
2110	Date Case Report Exported	Document effective time	None	Yes
2508: EHR Reporting	MU Version Number	Document template ID	None	Yes

Cancer Diagnosis and Stage

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Table Name and Source (Translation or Derivation)	Mapping Rules? (Yes/No)
		Cancer Diagnosis Section		
2570	Text--DX Proc--Path	Cancer Diagnosis Narrative	None	Yes
390	Date of Diagnosis	Diagnosis Date	None	Yes
391	Date of Diagnosis Flag	None	None	Yes
522	Histologic Type ICD-O-3	Histologic type	TRANS_SNOMED_ICDO3_Histo_CDA TRANS_ICD9_CDA TRANS_ICD9_SITEHISBEH_CDA TRANS_ICD10_SITELATHISBEH_CDA	Yes
523	Behavior Code ICD-O-3	Behavior	TRANS_ICD9_SITEHISBEH_CDA	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Table Name and Source (Translation or Derivation)	Mapping Rules? (Yes/No)
			TRANS_ICD10_SITELATHISBEH_CDA	
2590	Text--Histology Title	None	None	Yes
440	N/A	Grade	TRANS_GRADE	Yes
3843	N/A	Grade	TRANS_GRADE2018 TRANS_GRADE_AJCC7toAJCC8_CDA	Yes
3844	N/A	Grade	TRANS_GRADE2018 TRANS_GRADE_AJCC7toAJCC8_CDA	Yes
490	Diagnostic Confirmation	Diagnostic confirmation	None	Yes
400	Primary Site	Target Site Code	TRANS_ICD9_ICDO3_Prim_CDA TRANS_SNOMED_ICDO3_Prim_CDA TRANS_ICD10_CDA	Yes
2580	Text--Primary Site Title	None	None	Yes
410	Laterality	Laterality	TRANS_LATER_BASED_ON_SITE_CDA	Yes
2600	Text--Staging	Cancer Diagnosis TNM	None	Yes
970	TNM Clin Stage Group	TNM Clinical Stage Group	TRANS_AJCC7_CLIN_STAGEGROUP_CDA TRANS_STAGE_DEFAULTS	Yes
980	TNM Clin Descriptor	TNM Clinical Stage Descriptor	None	Yes
1060	TNM Edition Number	TNM Edition Number	TRANS_TNMEDITION_CDA	Yes
990	TNM Clin staged by	Primary Performer	TRANS_STAGED_BY_CDA	Yes
940	TNM Clin T	TNM Clinical T	TRANS_AJCC7_Clin_T	Yes
950	TNM Clin N	TNM Clinical N	TRANS_AJCC7_Clin_N	Yes
960	TNM Clin M	TNM Clinical M	TRANS_AJCC7_Clin_M	Yes
910	TNM Path Stage Group	None	TRANS_AJCC7_PATH_STAGEGROUP_CDA	Yes
920	TNM Path Descriptor	None	None	Yes
930	TNM Path Staged By	None	None	Yes
880	TNM Path T	None	TRANS_AJCC7_PATH_T	Yes
890	TNM Path N	None	TRANS_AJCC7_PATH_N	Yes
900	TNM Path M	None	TRANS_AJCC7_PATH_M	Yes
995	AJCC ID	None	None	Yes
1001	AJCC TNM Clin T	TNM Clinical T	TRANS_AJCC8_CLIN_T	Yes
1002	AJCC TNM Clin N	TNM Clinical N	TRANS_AJCC8_CLIN_N	Yes
1003	AJCC TNM Clin M	TNM Clinical M	TRANS_AJCC8_CLIN_M	Yes
1004	AJCC TNM Clin Stage Group	TNM Clinical Stage Group	TRANS_AJCC8_CLIN_STAGEGROUP_CDA	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Table Name and Source (Translation or Derivation)	Mapping Rules? (Yes/No)
3800	Schema ID	None	None	Yes
1011	AJCC TNM Path T	None	TRANS_AJCC8_PATH_T	Yes
1012	AJCC TNM Path N	None	TRANS_AJCC8_PATH_N	Yes
1013	AJCC TNM Path M	None	TRANS_AJCC8_PATH_M	Yes
1014	AJCC TNM Path Stage Group	None	None	Yes
759	SEER Summary Stage 2000	See Translation and Mapping Rules (MU2)	TRANS_STAGE_PROSTATE_AJCC7_CLIN_CDA TRANS_STAGE_PROSTATE_AJCC7_PATH_CDA TRANS_STAGE_MELANOMA_AJCC7_CLIN_CDA	Yes
764	SEER Summary Stage 2018	See Translation and Mapping Rules (MU2)	TRANS_STAGE_BLADDER_AJCC8_PATH_CDA TRANS_STAGE_BLADDER_AJCC8_CLIN_CDA TRANS_STAGE_MELANOMA_AJCC8_CLIN_CDA TRANS_STAGE_MELANOMA_AJCC8_PATH_CDA TRANS_STAGE_PROSTATE_AJCC8_CLIN_CDA TRANS_STAGE_PROSTATE_AJCC8_PATH_CDA	Yes

Medical

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
		Active Problems Section		
2520	Text--DX Proc--PE	None	None	Yes
3110 - 3164	Comorbid/Complication 1-10	Problem Code	None	Yes
3780-3798	Secondary Diagnoses 1-10	Problem Code	TRANS_SNOMED_ICD10_Prob_CDA	Yes
		Progress Note Section		
2680	Text--Remarks	Progress Notes Narrative	None	Yes
		Coded Results Section		
2530	Text--DX Proc--X-ray/Scan	Coded Results Section Narrative Text	None	Yes
2540	Text--DX Proc--Scopes	Coded Results Section Narrative Text	None	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
2550	Text--DX Proc--Lab Tests	Coded Results Section Narrative Text	None	Yes

Treatment

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
		Procedures Section		
670	RX Hosp--Surg Prim Site	Procedure Code	ProcedureTranslation	Yes
1290	RX Summ--Surg Prim Site	Procedure Code	ProcedureTranslation	Yes
1200	RX Date Surgery	Procedure DateTime	None	Yes
3170	RX Date Mst Defn Srg	Procedure DateTime	None	No
3171	RX Date Mst Defn Srg Flag	Procedure DateTime	None	No
2610	RX Text--Surgery	See Translation and Mapping Rules (MU2)	None	Yes
2560	Text--DX Proc--Op	See Translation and Mapping Rules (MU2)	None	Yes
1201	RX Date Surgery Flag	None	None	Yes
1340	Reason for No Surgery	None	None	Yes
1570	Rad--Regional RX Modality	Procedure Code	RADIATIONTRANSLATION	Yes
3200	Rad--Boost RX Modality	None	None	No
690	RX Hosp--Radiation	See Translation and Mapping Rules (MU2)	None	Yes
1360	RX Summ--Radiation	See Translation and Mapping Rules (MU2)	None	Yes
1506	Phase I Radiation Treatment Modality	Procedure Code	TRANS_RADIATION2018_CDA	Yes
2620	RX Text--Radiation (Beam)	See Translation and Mapping Rules (MU2)	None	Yes
2630	RX Text--Radiation (Other)	See Translation and Mapping Rules (MU2)	None	Yes
1210	RX Date Radiation	Procedure DateTime	None	Yes
1211	RX Date Radiation Flag	See Translation and Mapping Rules (MU2)	None	Yes
1430	Reason for No Radiation	See Translation and Mapping Rules (MU2)	None	Yes
1380	RX Summ--Surg/Rad Seq	See Translation and Mapping Rules (MU2)	None	Yes
1639	RX Summ--Systemic/Sur Seq	See Translation and Mapping Rules (MU2)	None	Yes
1285	RX Summ--Treatment Status	See Translation and Mapping Rules (MU2)	None	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
		Medications Section and Medications Administered		
700	RX Hosp--Chemo	Medications Entry - Chemotherapy	MedicationTranslation	Yes
1390	RX Summ--Chemo	Medications Entry - Chemotherapy	MedicationTranslation	Yes
1220	RX Date Chemo	Start Date - Chemotherapy	None	Yes
1221	RX Date Chemo Flag	None	None	Yes
2640	RX Text--Chemo	See Translation and Mapping Rules (MU2)	None	Yes
710	RX Hosp--Hormone	Medications Entry - Hormone Therapy	MedicationTranslation	Yes
1400	RX Summ--Hormone	Medications Entry - Hormone Therapy	MedicationTranslation	Yes
1230	RX Date Hormone	Start Date - Hormone Therapy	None	Yes
1231	RX Date Hormone Flag	None	None	Yes
2650	RX Text--Hormone	See Translation and Mapping Rules (MU2)	None	Yes
720	RX Hosp--Immunotherapy (BRM)	Medications Entry - Immunotherapy	MedicationTranslation	Yes
1410	RX Summ--BRM	Medications Entry - Immunotherapy	MedicationTranslation	Yes
1240	RX Date BRM	Start Date - Immunotherapy	None	Yes
1241	RX Date BRM Flag	None	None	Yes
2660	RX Text--BRM	See Translation and Mapping Rules (MU2)	None	Yes
730	RX Hosp--Other	Medications Entry - Other	MedicationTranslation	Yes
1420	RX Summ--Other	Medications Entry - Other	MedicationTranslation	Yes
1250	RX Date Other	Medications Entry - Other	MedicationTranslation	Yes
1251	RX Date Other Flag	Medications Entry - Other	MedicationTranslation	Yes
1270	DATE 1st Crs RX CoC	See Translation and Mapping Rules (MU2)	None	Yes
1260	DATE Initial RX SEER	See Translation and Mapping Rules (MU2)	None	Yes
1271	Date 1st Crs RX CoC Flag	See Translation and Mapping Rules (MU2)	None	Yes
1261	Date Initial RX SEER Flag	See Translation and Mapping Rules (MU2)	None	Yes

Follow-up

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
		Care Plan Section		
		Encounters Entry		
2420	Institution Referred To	Institution Referred To	State specific values: States can build a translation table from the NPI to their local codes	No
2425	NPI--Inst Referred To	Provider Referred To - NPI	None	Yes
2670	RX Text--Other	See Translation and Mapping Rules (MU2)	None	Yes

Meaningful Use Stage 3 (MU3): Data Elements Table

The tables below contain the NAACCR data elements for which eMaRC Plus has translation tables and/or mapping rules for MU Stage 3.

Demographics

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table	Mapping Rules? (Yes/No)
2110	Date Case Report Exported	Document effective time	None	Yes
2230	Name--Last	Patient Last Name	None	Yes
2270	Name--Suffix	Patient Name Suffix	None	Yes
2240	Name--First	Patient First Name	None	Yes
2250	Name--Middle	Patient Middle Name	None	Yes
2390	Name--Maiden	Patient Maiden Name	None	Yes
2280	Name--Alias	Patient Name Alias	None	Yes
2350	Addr Current--No & Street	Patient Street Address	None	Yes
2330	Addr at Dx--No & Street	Patient Street Address	None	Yes
2355	Addr Current--Supplementl	Patient Street Address	None	Yes
2335	Addr at Dx--Supplementl	Patient Street Address	None	Yes
1810	Addr Current--City	Patient City	None	Yes
70	Addr at Dx--City	Patient City	None	Yes
1820	Addr Current--State	Patient State	None	Yes
80	Addr at Dx--State	Patient State	None	Yes
1830	Addr Current--Postal Code	Patient Zip Code	None	Yes
100	Addr at Dx--Postal Code	Patient Zip Code	None	Yes
1832	Addr Current--Country	Patient Country	None	Yes
102	Addr at Dx--Country	Patient Country	None	Yes
2360	Telephone	Patient Telephone	None	Yes
96	countyAtDxGeocode2010	County Code	None	Yes
220	Sex	Patient Sex/Gender	TRANS_SEX	Yes
240	Date of Birth	Patient Date of Birth	None	Yes
230	Age at Diagnosis	See Translation and Mapping Rules (MU3)	None	Yes
2300	Medical Record Number	Patient Medical Record Number	None	Yes
2320	Social Security Number	Patient Social Security Number	None	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table	Mapping Rules? (Yes/No)
2315	Medicare Beneficiary Identifier	Medicare Beneficiary Identifier	None	Yes
160	Race 1	Patient Race1	TRANS_RACE_CDA	Yes
161	Race 2	sdtc:race2 (raceCode extension)	TRANS_RACE_CDA	Yes
162	Race 3	sdtc:race3 (raceCode extension)	TRANS_RACE_CDA	Yes
163	Race 4	sdtc:race4 (raceCode extension)	TRANS_RACE_CDA	Yes
164	Race 5	sdtc:race5 (raceCode extension)	TRANS_RACE_CDA	Yes
190	Spanish/Hispanic Origin	Patient Ethnicity	1. Code System OID=2.16.840.1.113883.6.238: TRANS_SPANISH_CDC_CDA 2. Code System OID=2.16.840.1.113883.12.189: TRANS_SPANISH_HL7_CDA	Yes
252	Birthplace--State	Birthplace State	None	Yes
254	Birthplace--Country	Birthplace Country	None	Yes
150	Marital Status at DX	Patient Marital Status	TRANS_MARITALSTATUS_CDA	Yes
		Coded Social History Section		
2520	Text--DX Proc--PE	Social History Narrative	None	Yes
270	Census Occ Code 1970-2000	Occupation code	None	Yes
282	Census Occ Code 2010 CDC	Occupation code	None	Yes
310	Text--Usual Occupation	Occupation-Original Text	None	Yes
290	Occupation Source	None	None	Yes
280	Census Ind Code 1970-2000	Industry code	None	Yes
272	Census Ind Code 2010 CDC	Industry code	None	Yes
320	Text--Usual Industry	Industry –Original Text	None	Yes
300	Industry Source	None	None	Yes
330	Census Occ/Ind Sys 70-00	Occupation Code System OID	None	Yes
		Payers Section		

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table	Mapping Rules? (Yes/No)
630	Primary Payer at DX	Payer Type	2.16.840.1.113883.3.221.5: TRANS_PAYER_TYPOLOGY_CDA 2.16.840.1.113883.6.255.1336 or 2.16.840.1.113883.6.255: TRANS_X12_CDA 2.16.840.1.113883.5.4: TRANS_PAYER_ACT_CODE	Yes

Reporting Source

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
2460	Physician--Managing	None	State specific values: States can build a translation table from the NPI to their local codes	No
2470	Physician--Follow-Up	None	State specific values: States can build a translation table from the NPI to their local codes	No
2490	Physician 3	None	State specific values: States can build a translation table from the NPI to their local codes	No
2500	Physician 4	None	State specific values: States can build a translation table from the NPI to their local codes	No
2465	NPI--Physician--Managing	• CDA Author • ServiceEvent/Performer • EncompassingEncounter/responsibleParty	None	Yes
2475	NPI--Physician--Follow-Up	• CDA Author • ServiceEvent/Performer • EncompassingEncounter/responsibleParty	None	Yes
2495	NPI--Physician 3	• CDA Author	None	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
		• ServiceEvent/Performer • EncompassingEncounter/responsibleParty		
2505	NPI--Physician 4	• CDA Author • ServiceEvent/Performer • EncompassingEncounter/responsibleParty	None	Yes
2680	Text Remarks	Physician Name (Various)	None	Yes
540	Reporting Facility (i.e., FIN number)	Custodian NPI and Name mapping to FIN	State specific values: States **MUST** map these through the Manage Facility feature	Manage Facility feature
545	NPI--Reporting Facility	Reporting Organization NPI (Custodian)	None	Yes
2410	Institution Referred From	Facility Referred From (encmpassingEncounter)	State specific values: States can build a translation table from the NPI to their local codes	No
2415	NPI--Inst Referred From	Provider Referred From ID (NPI)	None	Yes
2690	Text Place of Diagnosis	Reporting Organization (Custodian) Name	None	Yes
580	Date of First Contact	See Translation and Mapping Rules (MU3)	None	Yes
1750	Date of Last Contact	See Translation and Mapping Rules (MU3)	None	Yes
2110	Date Case Report Exported	Document effective time	None	Yes
2508: EHR Reporting	MU Version Number	Document template ID	None	Yes

Cancer Diagnosis and Stage

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Table Name and Source (Translation or Derivation)	Mapping Rules? (Yes/No)
		Cancer Diagnosis Section		
2570	Text--DX Proc--Path	Cancer Diagnosis Narrative	None	Yes
390	Date of Diagnosis	Diagnosis Date	None	Yes
391	Date of Diagnosis Flag	None	None	Yes
522	Histologic Type ICD-O-3	Histologic type	TRANS_SNOMED_ICDO3_Histo_CDA	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Table Name and Source (Translation or Derivation)	Mapping Rules? (Yes/No)
			TRANS_ICD9_CDA TRANS_ICD9_SITEHISBEH_CDA TRANS_ICD10_SITELATHISBEH_CDA	
523	Behavior Code ICD-O-3	Behavior	TRANS_ICD9_SITEHISBEH_CDA TRANS_ICD10_SITELATHISBEH_CDA	Yes
2590	Text--Histology Title	None	None	Yes
440	N/A	Grade	TRANS_GRADE	Yes
3843	N/A	Grade	TRANS_GRADE2018 TRANS_GRADE_AJCC7toAJCC8_CDA	Yes
3844	N/A	Grade	TRANS_GRADE2018 TRANS_GRADE_AJCC7toAJCC8_CDA	Yes
3845	N/A	Grade	None	Yes
490	Diagnostic Confirmation	Diagnostic confirmation	None	Yes
400	Primary Site	Target Site Code	TRANS_ICD9_ICDO3_Prim_CDA TRANS_SNOMED_ICDO3_Prim_CDA TRANS_ICD10_CDA	Yes
2580	Text--Primary Site Title	None	None	Yes
410	Laterality	Laterality	TRANS_LATER_BASED_ON_SITE_CDA	Yes
2600	Text--Staging	Cancer Diagnosis TNM	None	Yes
970	TNM Clin Stage Group	TNM Clinical Stage Group	TRANS_AJCC7_CLIN_STAGEGROUP_CDA TRANS_STAGE_DEFAULTS	Yes
980	TNM Clin Descriptor	TNM Clinical Stage Descriptor	None	Yes
1060	TNM Edition Number	TNM Edition Number	TRANS_TNMEDITION_CDA	Yes
990	TNM Clin staged by	Primary Performer	TRANS_STAGED_BY_CDA	Yes
940	TNM Clin T	TNM Clinical T	TRANS_AJCC7_Clin_T	Yes
950	TNM Clin N	TNM Clinical N	TRANS_AJCC7_Clin_N	Yes
960	TNM Clin M	TNM Clinical M	TRANS_AJCC7_Clin_M	Yes
910	TNM Path Stage Group	None	TRANS_AJCC7_PATH_STAGEGROUP_CDA	Yes
920	TNM Path Descriptor	None	None	Yes
930	TNM Path Staged By	None	None	Yes
880	TNM Path T	None	TRANS_AJCC7_PATH_T	Yes
890	TNM Path N	None	TRANS_AJCC7_PATH_N	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Table Name and Source (Translation or Derivation)	Mapping Rules? (Yes/No)
900	TNM Path M	None	TRANS_AJCC7_PATH_M	Yes
995	AJCC ID	None	None	Yes
1001	AJCC TNM Clin T	TNM Clinical T	TRANS_AJCC8_CLIN_T	Yes
1002	AJCC TNM Clin N	TNM Clinical N	TRANS_AJCC8_CLIN_N	Yes
1003	AJCC TNM Clin M	TNM Clinical M	TRANS_AJCC8_CLIN_M	Yes
1004	AJCC TNM Clin Stage Group	TNM Clinical Stage Group	TRANS_AJCC8_CLIN_STAGE GROUP_CDA	Yes
3800	Schema ID	None	None	Yes
1011	AJCC TNM Path T	None	TRANS_AJCC8_PATH_T	Yes
1012	AJCC TNM Path N	None	TRANS_AJCC8_PATH_N	Yes
1013	AJCC TNM Path M	None	TRANS_AJCC8_PATH_M	Yes
1014	AJCC TNM Path Stage Group	None	TRANS_AJCC8_PATH_STAG EGROUP_CDA	Yes
759	SEER Summary Stage 2000	See Translation and Mapping Rules (MU3)	TRANS_STAGE_PROSTATE_ AJCC7_CLIN_CDA TRANS_STAGE_PROSTATE_ AJCC7_PATH_CDA TRANS_STAGE_MELANOMA_ AJCC7_CLIN_CDA	Yes
764	SEER Summary Stage 2018	See Translation and Mapping Rules (MU3)	TRANS_STAGE_BLADDER_A JCC8_PATH_CDA TRANS_STAGE_BLADDER_A JCC8_CLIN_CDA TRANS_STAGE_MELANOMA_ AJCC8_CLIN_CDA TRANS_STAGE_MELANOMA_ AJCC8_PATH_CDA TRANS_STAGE_PROSTATE_ AJCC8_CLIN_CDA TRANS_STAGE_PROSTATE_ AJCC8_PATH_CDA	Yes

Medical

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
		Active Problems Section		
2520	Text--DX Proc--PE	None	None	Yes
3110 - 3164	Comorbid/Complication 1-10	Problem Code	None	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
3780-3798	Secondary Diagnoses 1-10	Problem Code	TRANS_SNOMED_ICD10_Prob_CDA	Yes
		Progress Note Section		
2680	Text--Remarks	Progress Notes Narrative	None	Yes
		Coded Results Section		
2530	Text--DX Proc--X-ray/Scan	Coded Results Section Narrative Text	None	Yes
2540	Text--DX Proc--Scopes	Coded Results Section Narrative Text	None	Yes
2550	Text--DX Proc--Lab Tests	Coded Results Section Narrative Text	None	Yes

Treatment

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
		Procedures Section		
670	RX Hosp--Surg Prim Site	Procedure Code	ProcedureTranslation	Yes
1290	RX Summ--Surg Prim Site	Procedure Code	ProcedureTranslation	Yes
1200	RX Date Surgery	Procedure DateTime	None	Yes
3170	RX Date Mst Defn Srg	Procedure DateTime	None	No
3171	RX Date Mst Defn Srg Flag	Procedure DateTime	None	No
2610	RX Text--Surgery	See Translation and Mapping Rules (MU3)	None	Yes
2560	Text--DX Proc--Op	See Translation and Mapping Rules (MU3)	None	Yes
1201	RX Date Surgery Flag	None	None	Yes
1340	Reason for No Surgery	None	None	Yes
1570	Rad--Regional RX Modality	Procedure or Radiation Section/Procedure Code	RADIATIONTRANSLATION	Yes
3200	Rad--Boost RX Modality	Procedure or Radiation Section/Procedure Code	RADIATIONTRANSLATION	Yes
690	RX Hosp--Radiation	See Translation and Mapping Rules (MU3)	None	Yes
1360	RX Summ--Radiation	See Translation and Mapping Rules (MU3)	None	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
1506	Phase I Radiation Treatment Modality	Procedure or Radiation Section/Procedure Code	TRANS_RADIATION2018_CDA	Yes
2620	RX Text--Radiation (Beam)	See Translation and Mapping Rules (MU3)	None	Yes
2630	RX Text--Radiation (Other)	See Translation and Mapping Rules (MU3)	None	Yes
1210	RX Date Radiation	Procedure DateTime	None	Yes
1211	RX Date Radiation Flag	See Translation and Mapping Rules (MU3)	None	Yes
1430	Reason for No Radiation	See Translation and Mapping Rules (MU3)	None	Yes
1380	RX Summ--Surg/Rad Seq	See Translation and Mapping Rules (MU3)	None	Yes
1639	RX Summ--Systemic/Sur Seq	See Translation and Mapping Rules (MU3)	None	Yes
1285	RX Summ--Treatment Status	See Translation and Mapping Rules (MU3)	None	Yes
		Medications Section and Medications Administered		
700	RX Hosp--Chemo	Medications Entry - Chemotherapy	MedicationTranslation	Yes
1390	RX Summ--Chemo	Medications Entry - Chemotherapy	MedicationTranslation	Yes
1220	RX Date Chemo	Start Date - Chemotherapy	None	Yes
1221	RX Date Chemo Flag	None	None	Yes
2640	RX Text--Chemo	See Translation and Mapping Rules (MU3)	None	Yes
710	RX Hosp--Hormone	Medications Entry - Hormone Therapy	MedicationTranslation	Yes
1400	RX Summ--Hormone	Medications Entry - Hormone Therapy	MedicationTranslation	Yes
1230	RX Date Hormone	Start Date - Hormone Therapy	None	Yes
1231	RX Date Hormone Flag	None	None	Yes
2650	RX Text--Hormone	See Translation and Mapping Rules (MU3)	None	Yes
720	RX Hosp--Immunotherapy (BRM)	Medications Entry - Immunotherapy	MedicationTranslation	Yes
1410	RX Summ--BRM	Medications Entry - Immunotherapy	MedicationTranslation	Yes
1240	RX Date BRM	Start Date - Immunotherapy	None	Yes

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
1241	RX Date BRM Flag	None	None	Yes
2660	RX Text--BRM	See Translation and Mapping Rules (MU3)	None	Yes
730	RX Hosp--Other	Medications Entry - Other	MedicationTranslation	Yes
1420	RX Summ--Other	Medications Entry - Other	MedicationTranslation	Yes
1250	RX Date Other	Medications Entry - Other	MedicationTranslation	Yes
1251	RX Date Other Flag	Medications Entry - Other	MedicationTranslation	Yes
1270	DATE 1st Crs RX CoC	See Translation and Mapping Rules (MU3)	None	Yes
1260	DATE Initial RX SEER	See Translation and Mapping Rules (MU3)	None	Yes
1271	Date 1st Crs RX CoC Flag	See Translation and Mapping Rules (MU3)	None	Yes
1261	Date Initial RX SEER Flag	See Translation and Mapping Rules (MU3)	None	Yes

Follow-up

NAACCR Data Item Number	NAACCR Data Item Name	CDA Data Element	Translation Table Name and Source	Mapping Rules? (Yes/No)
		Care Plan Section		
		Encounters Entry		
2420	Institution Referred To	Institution Referred To	State specific values: States can build a translation table from the NPI to their local codes	No
2425	NPI--Inst Referred To	Provider Referred To - NPI	None	Yes
2670	RX Text--Other	See Translation and Mapping Rules (MU3)	None	Yes

Translation and Mapping Rules (MU2)

Where data item values are missing or null, eMaRC Plus will apply default values that have been set up; otherwise it will leave the item blank/empty. Registries can modify the default value for any data item through the *Manage Abstract Display* feature.

Name--Last [#2230]

Name--Suffix [#2270]

Name--First [#2240]

Name--Middle [#2250]

Name--Maiden [#2390]

Name--Alias [#2280]

Rule #	Mapping/Translation Rules
	Patient Last Name [#2230]
1	Map CDA recordTarget Family (qualifier not=BR or CL) to NAACCR Name--Last [#2230].
2	Truncate Last Name if more than 40 letters long.
3.a	Blanks, spaces, hyphens, and apostrophes are allowed.
3.b	Do not use other punctuation.
	Name--Suffix [#2270]
1	Map CDA recordTarget Suffix to NAACCR Name--Suffix [#2270].
2.a	Blanks, spaces, hyphens, and apostrophes are allowed.
2.b	Do not use other punctuation.
	Patient First Name [#2240]
1	Map CDA recordTarget first occurrence in CDA document of name/given to NAACCR Name--First.
2	Truncate First Name if more than 40 letters long.
3.a	Blanks, spaces, hyphens, and apostrophes are allowed.
3.b	Do not use other punctuation.
	Patient Middle Name [#2250]
1	Map CDA recordTarget second occurrence in CDA document of name/given where qualifier is not ‘CL’ to NAACCR Name--Middle.
2	Truncate Middle Name if more than 40 letters long.
3.a	Blanks, spaces, hyphens, and apostrophes are allowed.
3.b	Do not use other punctuation.
	Patient Maiden Name [#2390]
1	Map CDA recordTarget Family (Qualifier = BR) to NAACCR Name--Maiden.
2	Truncate Maiden Name if more than 40 letters long.
3.a	Blanks, spaces, hyphens, and apostrophes are allowed.
3.b	Do not use other punctuation.
	Patient Alias [#2280]
1	Map CDA recordTarget Family (Qualifier = CL) to NAACCR Name--Alias.
2	Truncate Alias if more than 40 letters long.
3.a	Blanks, spaces, hyphens, and apostrophes are allowed.

Rule #	Mapping/Translation Rules
3.b	Do not use other punctuation.

Telephone [#2360]

Addr at Dx--No & Street [#2330]

Addr at DX--Supplementl [#2335]

Addr at DX--City [#70]

Addr at Dx--State [#1820]

Addr at Dx--Postal Code [#1830]

Addr at Dx--Country [#102]

Addr at Dx--County [#96]

Addr at DX--Supplementl [#2335]

Addr Current--No & Street [#2350]

Addr Current--City [#1810]

Addr Current--State [#1820]

Addr Current--Postal Code [#1830]

Addr Current--Country [#1832]

NOTE: Both complete and incomplete addresses will be used in the rules below.

Rule #	Mapping/Translation Rules
	Telephone [#2360]
1	Remove "tel", ":", "-" and "()".
2	If present, remove leading "1" and/or "+".
3	If null flavor = "NA" set Telephone to "0000000000".
	Address
1	Ignore CDA address if AddressUse is not "home", "HP" or "H" (Ignore for both Address at Diagnosis and Address Current data items).
1.a	If there are no addresses with an AddressUse of "home", use all addresses to determine Address at Diagnosis and Address Current data items.
1.b	If AddressUse is absent, use all addresses to determine Address at Diagnosis and Address Current.
	Address at Diagnosis
2	If only one address is reported in the CDA document, set Address at Diagnosis to be that address, regardless of the low/high (start/end) dates.
2.a	If more than one address is reported and no dates are provided, set Address at Diagnosis to be the first address recorded in the CDA document.
2.b	If more than one address is reported and Address dates surround the Diagnosis Date [#390], set Address at Diagnosis to be the earliest address where the low value (start date) is before the date of diagnosis and the high value (end date) is **ON or** after the date of diagnosis.

Rule #	Mapping/Translation Rules
	Note: This means that an address with a start and end date surrounding the Diagnosis Date [#390] will be used over an address with a start date closer to the diagnosis date. High (date) value of NULL is the same as today's date.
2.b.1	If more than one address is reported AND Address dates surround the Diagnosis Date [#390] AND the start dates are the same, set Address at Diagnosis to be the first address recorded in the CDA document.
2.c	If more than one address is reported and Address dates do not surround the Diagnosis Date [#390], set Address at Diagnosis to be the earliest address.
2.c.1	If more than one address is reported and Address dates do not surround the Diagnosis Date [#390], AND the start dates are the same, set Address at Diagnosis to be the first address recorded in the CDA document.
	For Address at Diagnosis selected
3	For NAACCR “Addr at Dx--NO & Street” [#2330], use first streetAddressLine in selected address.
3.a	For “Addr at DX--Supplementl” [#2335], use second and subsequent CDA streetAddressLine in selected address (concatenate if more than second line is used).
3.b	If the state populates the County element with the G prefix and 3-digit numeric code for County. eMaRC will look for and only map the values with the G to the geocoded county at diagnosis data item [#96] (eMaRC will then drop the G during mapping so only the numeric digits will be mapped into the NAACCR field).
3.c	If Country provided is “US”, convert to “USA”.
	Address Current
4	If only one address is reported in the CDA document, set Address Current to be that address, regardless of the low/high (start/end) dates.
4.a	If more than one address is reported, and the useablePeriod/high has a nullFlavor of “NA”, then set Address Current to be that address.
4.b	If more than one address is reported and no dates are provided, set Address Current to be the last address recorded in the CDA document.
4.c	If more than one address is reported, and only one address has no high value (end date), set Address Current to be the address with no end date.
4.d	If more than one address is reported, and all have ends dates, set Address Current to be the most recent address where the high value (**end** date) is closest to today’s date.
4.d.1	If the end date is the same for two or more addresses, or if there is more than one address with no end date, set Address Current to be the address with the **start** date closest to today’s date.
	For Address Current selected
5	For NAACCR “Addr Current--No & Street” [#2350], use first streetAddressLine in selected address.
5.a	For “Addr Current--Supplementl” [#2355], use second and subsequent CDA streetAddressLine in selected address (concatenate if more than second line is used).
5.b	If Country provided is “US”, convert to “USA”.

Patient Sex/Gender [#220]

Rule #	Mapping/Translation Rules
1	Map CDA administrativeGenderCode to NAACCR Patient Sex using Table TRANS_SEX.

Patient Date of Birth [#240]

Rule #	Mapping/Translation Rules
1	Map CDA recordTarget birthTime to NAACCR Date of Birth.
2	If Date of Birth is blank/empty, then set date of Birth Flag to the value of “12- A proper value is applicable but not known. This event occurred but the date is unknown.”

Patient Age at Diagnosis [#230]

Rule #	Mapping/Translation Rules
1	Do not calculate if either Date of Diagnosis or Date of Birth is missing. • Apply the default value when available; otherwise leave empty.
2	Calculate Age at diagnosis using the formula: NAACCR Date of diagnosis - NAACCR Date of Birth.

Medical Record Number [#2300]

Rule #	Mapping/Translation Rules
1	Map CDA recordTarget ID (not @root= '2.16.840.1.113883.4.1') to NAACCR Medical Record Number.

Social Security Number [#2320]

Rule #	Mapping/Translation Rules
1	Map CDA recordTarget ID (@root= '2.16.840.1.113883.4.1') to NAACCR Social Security Number.
2	Remove Dashes.
3	If CDA recordTarget ID (@root= '2.16.840.1.113883.4.1') is less than 9 digits, “X” will be added to the NAACCR item from the left to replace the missing digits.

Medicare Beneficiary Number [#2315]

Rule #	Mapping/Translation Rules
1	Map CDA Header patientRole/id when OID=2.16.840.1.113883.4.572 to NAACCR Medicare Beneficiary Identifier (MBI) (#2315). If MBI is not recorded, leave NAACCR MBI (#2315) empty/blank.
1.a	If MBI is not recorded, leave NAACCR MBI (#2315) empty/blank.

Birthplace State [#252]

Birthplace Country [#254]

Rule #	Mapping/Translation Rules
	Birthplace State
1	Map CDA recordTarget Birthplace State to NAACCR Birthplace--State.
1.a	If Birthplace--State is missing or null, populate with “ZZ”.
	Birthplace Country [#254]

Rule #	Mapping/Translation Rules
2	Map CDA recordTarget BirthPlace Country to NAACCR Birthplace--Country.
2.a	If Birthplace--Country is missing or null, populate with “ZZU”.
2.b	If Birthplace—Country is “US”, populate with “USA”.

Marital Status at Diagnosis [#150]

Rule #	Mapping/Translation Rules
1	Map CDA recordTarget Marital Status to NAACCR Marital Status at Diagnosis using Table: TRANS_MARITALSTATUS_CDA.

Race 1 [#160]

Race 2 [#161]

Race 3 [#162]

Race 4 [#163]

Race 5 [#164]

Rule #	Mapping/Translation Rules
1	If there are no race codes, set Race1 – Race5 to be “99”.
2	Translate all race codes in the CDA document for both raceCode and sdtc:raceCode elements to the NAACCR codes using the Race Translation table.
2.a	Ignore CDA race code(s) if not found in the Race Translation table.
2.b	If **none** of the race codes are in the Race Translation table, set Race1 – Race5 to be “99”.
2.c	Do not record the same value in more than one race code field.
3	Populate Races 1-5 in the order the race codes are received, with the following exceptions:
3.a	If Race Code 07-Hawaiian is present, Set Race1 = 07.
3.b	If Race Code of “01-White” and any other Race Code(s) are present, Set Race1- RaceN* to be the other Race Code(s); Set the next RaceN* value to = 01.
3.b.1	If Race Code 04-17-Specific Asian AND Race Code 96 - Asian, NOS is present, Ignore Race Code 96 and set Race1 – RaceN* with Race Code(s) 04-17.
3.b.2	If Race Code 20-32-Specific Pacific Islander AND Race Code 97 - Pacific Islander, NOS is present, ignore code 97 and set Race1 – RaceN* with race codes 20-32.
3.b.3	If Race Code 96-97-Asian, NOS or Pacific Islander, NOS AND Race Code 98 - Other is present, Ignore Race Code 98 and set Race1 – RaceN* with Race Code(s) 96-97.
4	Code 88 for the remaining unpopulated race fields (Race 2 - Race 5).

Spanish/Hispanic Origin [#190]

Rule #	Mapping/Translation Rules
1	If Ethnicity Code is from [#2.16.840.1.113883.6.238 - Race & Ethnicity - CDC, translate CDA code to NAACCR value using TRANS_SPANISH_CDC_CDA.

Rule #	Mapping/Translation Rules
2	If Ethnicity Code is from [#2.16.840.1.113883.12.189 - Ethnic Group (HL7), translate CDA code to NAACCR value using TRANS_SPANISH_HL7_CDA.

Census Occ Code 1970-2000 [#270]

Census Occ Code 2010 CDC [#282]

Text--Usual Occupation [#310]

Occupation Source [#290]

Rule #	Mapping/Translation Rules
	Verify Occupation coding system is valid
1	If Occupation code is less than 3 characters or more than 4 characters, ignore this code.
	Census Occ Code 1970-2000 [#270]
2	Map CDA Occupation Census Code directly to Census Occ Code 1970-2000 when it is a 3-digit census code.
2.a	If more than one occupation is provided, use occupation that has the longest duration (high/end date minus low/start date), excluding “906 -retired”.
2.a.1	If more than one with same duration, use occupation with most recent start date.
2.a.2	If only one date (rather than start and end dates) is provided, use most recent occupation.
2.a.2	If no dates are provided, use first-listed occupation.
	Census Occ Code 2010 [#210]
3	Map CDA Occupation Census Code directly to Census Occ Code 2010 when it is a 4-digit census code.
3.a	If more than one occupation is provided, use occupation that has the longest duration (high/end date minus low/start date), excluding “9060 - retired”.
3.a.1	If more than one with same duration, use occupation with most recent start date.
3.a.2	If only one date (rather than start and end dates) is provided, use most recent occupation.
3.a.3	If no dates are provided, use first-listed occupation.
	Text--Usual Occupation [#310]
4	Append text that corresponds to the occupation code selected to Text--Usual Occupation.
4.a	Append CDA Occupation Original Text. If not available, continue with “Set Occupation Source [#290]”.
4.b	Append Occupation Census Display Name. If not available, continue with “Set Occupation Source [#290]”.
4.c	If originalText and displayName are blank/empty or null, do not populate Text--Usual Occupation.
	Set Occupation Source [#290]
5	IF occupation code is provided and patient’s age at diagnosis is less than 14 years, set Occupation Source = “8 – Not applicable, patient less than 14 years of age at diagnosis”.
5.a	IF occupation code is provided and patient’s age at diagnosis is 14 or more years old, set Occupation Source = “1 – Reporting facility record”.
5.b	Else Occupation Source = “0 – Unknown occupation/no occupation available".

Census Ind Code 1970-2000 [#280]

Census Ind Code 2010 [#272]

Text--Usual Industry [#320]

Industry Source [#300]

Census Occ/Ind Sys 70-00 [#330]

Rule #	Mapping/Translation Rules
	Industry Code system
1	If Industry code is less than 3 characters or more than 4 characters ignore this code.
	Industry Census 1970 – 2000 [#280]
2	Map CDA Industry Census Code directly to Census Ind Code 1970-2000 when it is a 3-digit census code.
2.a	If more than one industry is provided, use industry that has the longest duration (high/end date minus low/start date), excluding “988-retired”.
2.a.1	If more than one with same duration, use industry with most recent start date.
2.a.2	If only one date (rather than start and end dates) is provided, use most recent industry.
2.a.3	If no dates are provided, use first-listed industry.
	Census Ind Code 2010 [#272]
3	Map CDA Industry Census Code directly to Census Ind Code 2010 mapped directly from CDA Industry Census Code when it is a 4-digit census code.
3.a	If more than one industry is provided, use occupation that has the longest duration (high/end date minus low/start date), excluding “9880-retired”.
3.a.1	If more than one with same duration, use industry with most recent start date.
3.a.2	If only one date (rather than start and end dates) is provided, use most recent industry.
3.a.3	If no dates are provided, use first-listed industry.
	Append text that corresponds to the industry code selected to Text--Usual Industry
4	Append CDA Industry Original Text. If not available, continue with “Set Industry Source [#300]”.
4.a	Append Industry Census Display Name. If not available, continue with “Set Industry Source [#300]”.
4.b	If originalText and displayName are blank/empty or null, do not populate Text--Usual Occupation.
	Set Industry Source [#300]
5	IF industry code is provided and patient’s age at diagnosis is less than 14 years, Industry Source = “8 – Not applicable, patient less than 14 years of age at diagnosis”.
5.a	IF industry code is provided and patient’s age at diagnosis is 14 or more years, set Industry Source = “1 – Reporting facility record”.
5.b	Else Industry Source = “0 – Unknown industry/no industry available”.
	Occup/Industry Coding System [#330]
6	If CDA occupation/industry census code is 3 digits, set value = “4”.
6.a	If CDA occupation/industry census code is 4 digits, set value = “5”.

Primary Payer at Diagnosis [#630]

Rule #	Mapping/Translation Rules
	Translate codes.
1	If the code system OID for the Payer Code is 2.16.840.1.113883.221.5 - Source of Payment Typology (PHDSC), translate CDA code to NAACCR Primary Payer at Diagnosis using TRANS_PAYER_TYPOLOGY_CDA.
1.a	If the code system OID for the Payer Code is 2.1.840.1.113883.6.255.1336 – X12 Data Element 1336, translate CDA code to NAACCR Primary Payer at Diagnosis using TRANS_X12_CDA. [Note: both OIDs are being allowed due to error in OID in PHIN VADS and the IG.]
1.b	If the code system OID for the Payer Code is 2.16.840.1.113883.5.4 HL7 Act Code, translate CDA code to NAACCR Data Item Primary Payer at Diagnosis using TRANS_PAYER_ACT_CODE.
1.c	If the code system OID for the Payer Code is invalid (not 2.16.840.1.113883.221.5, 2.16.840.1.113883.3.221.5, 2.1.840.1.113883.6.255.1336 or 2.16.840.1.113883.5.4) 1. Do not populate Primary Payer at Diagnosis. 2. Record in the processing log.
	Select Primary Payer at Diagnosis [#630] according to the following hierarchy:
2	If sequence number is provided, use preferred policy (sequence # 1). The sequence number is an optional element in the CDA document and is defined as follows: “The <sequenceNumber> element contains a value attribute that indicates the priority of the payment source.”
2.a	If no sequence numbers are provided, use the first payer recorded in the CDA document.
2.b	If only one payer is recorded, use that payer code.

Date of Diagnosis [#390]

Rule #	Mapping/Translation Rules
1	Map CDA Cancer Diagnosis Observation effectiveTime to NAACCR Diagnosis Date.
2	If Date of Diagnosis is empty/blank/null flavor, then:
2.a	Leave **NAACCR** Date of Diagnosis empty.
2.b	Set date of Date of Diagnosis Flag to the value of “12- A proper value is applicable but not known. This event occurred but the date is unknown.”

Histologic Type ICD-O-3 [#522]

Behavior Code ICD-O-3 [#523]

Diagnostic Confirmation ICD-O-3 [#490]

Grade [#440]

Grade Clinical [#3843]

Grade Pathological [#3844]

Grade PostRx [#3845]

Text--Histology Title [#2590]

Text--DX Proc--Path [#2570]

Text--Staging [#2600]

Rule #	Mapping/Translation Rules
	Histology [#522]
1	If the code system OID for the Histologic Type is 2.16.840.1.113883.6.43.1, (ICD-O-3) or 2.16.840.1.114222.4.11.6038 (ICD-9-CM) Map CDA Histologic Type to NAACCR Histologic Type ICD-O-3.
1.a	Remove Leading M, -, --.
1.b	Remove "/" and any digits following the /.
1.c	Remove the 5th numeric characters and any subsequent numeric characters.
2	If the code system OID for the Histologic Type is 2.16.840.1.113883.6.96 (SNOMEDCT), translate CDA Histologic Type to ICD-O-3 Histology using TRANS_SNOMED_ICDO3_HISTO_CDA.
3	If code system OID for Histologic Type is 2.16.840.1.113883.6.90 (ICD-10-CM):
3a	Update NAACCR Data Item Histology using TRANS_ICD10_SITELATHISBEH_CDA.
3b	Record the following message in the Processing Log: "*Histology code was an ICD-10-CM diagnosis code in CDA Report. Abstract has been populated with Histology Code derived from this code through crosswalk*."
4	If CDA Histology is not provided (null flavor)
4.a	If targetSiteCode CodeSystem is ICD-9-CM
4.a.1	Update NAACCR Data Item Histology using TRANS_ICD9_SITEHISBEH_CDA.
4.a.2	Update NAACCR Data Item Behavior using TRANS_ICD9_SITEHISBEH_CDA, regardless of whether CDA Behavior is provided (even if it overwrites behavior code from CDA document).
4.a.3	Record the following message in the Processing Log: "*Histology code was unknown or null in CDA Report. Abstract has been populated with Histology Code derived from CDA primary site code (ICD9 CM diagnosis code) through crosswalk.*"
4.b	If targetSiteCode CodeSystem is ICD-10-CM
4.b.1	Update NAACCR Data Item Histology using TRANS_ICD10_SITELATHISBEH_CDA.
4.b.2	Update NAACCR Data Item Behavior using TRANS_ICD10_SITELATHISBEH_CDA, regardless of whether CDA Behavior is provided (even if it overwrites behavior code from CDA document).
4.b.3	Record the following message in the Processing Log: "*Histology code was unknown or null in CDA Report. Abstract has been populated with Histology Code derived from CDA primary site code (ICD10 CM diagnosis code) through crosswalk.*"
4.c	If value/originalText is provided, record the following message in the Processing Log: *"Histology code was unknown or null in CDA Report; original text histology information is provided in Text--Histology Title [#2590]."*
	Behavior [#523]

Rule #	Mapping/Translation Rules
1	Map CDA Behavior to NAACCR Behavior Code ICD-O-3.
2	If CDA Behavior is not provided (null flavor) or "9 – Unknown"
3	If CDA Histologic Type has 5 digits: 1. Update NAACCR Data Item Behavior with the 5th digit from CDA Histologic Type. 2. Record the following message in the Processing Log: "*Behavior code was unknown or null in CDA Report. Abstract has been populated with the fifth digit (Behavior Code) from the CDA Histologic Type.*" Go to **Grade [#440], Grade Clinical [#3843], Grade Pathological [#3844] and Grade Post-Therapy [#3845]**.
4	If NAACCR Behavior is blank/empty and CDA Histologic Type includes a "/" (slash) and numeric value following the "/" (Slash): 1. Update NAACCR Data Item Behavior with the numeric value following the "/" (Slash) from CDA Histologic Type. 2. Record the following message in the Processing Log: "*Behavior code was unknown or null in CDA Report. Abstract has been populated with the fifth digit (Behavior Code) from the CDA Histologic Type.*" Go to **Grade [#440], Grade Clinical [#3843], Grade Pathological [#3844] and Grade Post-Therapy [#3845]**
5	If NAACCR Behavior is blank/empty and targetSiteCode CodeSystem is ICD-9-CM: 1. Update NAACCR Data Item Behavior using TRANS_ICD9_SITEHISBEH_CDA 2. Record the following message in the Processing Log: "*Behavior code was unknown or null in CDA Report. Abstract has been populated with Behavior Code derived from CDA primary site code (ICD9 CM diagnosis code) through crosswalk.*"
5.a	If NAACCR Behavior is blank/empty and targetSiteCode CodeSystem is ICD-10-CM: 1. Update NAACCR Data Item Behavior using TRANS_ICD10_SITELATHISBEH_CDA 2. Record the following message in the Processing Log: "*Behavior code was unknown or null in CDA Report. Abstract has been populated with Behavior Code derived from CDA primary site code (ICD10 CM diagnosis code) through crosswalk.*"
6	If targetSiteCode CodeSystem is SNOMED CT or ICD-O-3, set Behavior = 9.
7	If value/originalText is provided, record the following message in the Processing Log: *"Behavior code was unknown or null in CDA Report; original text behavior information is provided in Text--Histology Title [#2590]."*
	Grade [#440], Grade Clinical [#3843], Grade Pathological [#3844] and Grade Post-Therapy [#3845]
1	If Diagnosis date is **before** 2018:
1.a	Leave Grade Clinical [#3843], Grade Pathological [#3844] and Grade Post-Therapy [#3845] blank/empty.
1.b	Use NAACCR Histology Data Item [#522] to assign NAACCR Data Item Grade [#440] using TRANS_GRADE table. Note: This step assigns the correct grade for the histologies that have the grade as part of the definition. Record the following message in the Processing Log: *"Grade code was assigned from the Abstract's histology code because it has grade as part of the definition."*
2	If NAACCR Grade [#440] is not populated AND (CDA Histologic Type's Code System OID = '2.16.840.1.113883.6.43.1' (ICD-O-3) or '2.16.840.1.113883.6.103' (ICD-9-CM)) AND CDA Histologic Type has six numeric values (exclude M, -, --, /) AND CDA Histologic Type 6th numeric value = "1', "2, "3', "4", "5", "6", "7", "8", OR "9",: Map 6th numeric value to NAACCR Grade Code [#440].

Rule #	Mapping/Translation Rules
	Record the following message in the Processing Log: *"Abstract has been populated with Grade Code from the CDA histology*.
3	If NAACCR Grade [#440] is not populated and CDA Grade is not provided (null flavor) AND If CDA Histologic Type has six numeric values (exclude M,-,--, /) and CDA Histologic Type 6th numeric value is NOT "1', "2, "3', "4", "5", "6", "7", "8", OR "9" , Record the following message in the Processing Log: *"The Grade Code from the CDA histology is an invalid code."*
4	If NAACCR Grade [#440] is not populated, set to "9".
	If Diagnosis date is **2018 or later:**
1	TNM DLL populates Grade Clinical [#3843] set Grade Pathological [#3844] Grade PostRx [#3845].
1.a	Leave Grade [#440] blank/empty.
1.b	IF NAACCR histology is 9590-9992, set Grade Clinical [#3843] = '8', set Grade Pathological [#3844] = '8', set Grade PostRx [#3845] = blank/empty.
1.c	IF NAACCR histology is (either 9690, 9691, 9695, 9698) AND NAACCR primary site is (C441, C690, C695, C696), set Grade_Clinical [#3843] = '9' and Grade_Pathological [#3844] = '9'
1.d	If NAACCR Grade Clinical is not populated, Use NAACCR Histology Data Item [#522] to assign NAACCR Grade Clinical [#3843] using TRANS_GRADE2018. Note: This step assigns the correct grade for the histologies that have the grade as part of the definition. Record the following message in the Processing Log: *"Grade Clinical code was assigned from the Abstract's histology code because it has grade as part of the definition."*
1.e	If NAACCR Grade Clinical is not populated AND CDA Histologic Type has six numeric values (exclude M, -, --, /): Map the 6th numeric value to NAACCR Grade Clinical [#3843] using TRANS_GRADE_AJCC7toAJCC8_CDA. Record the following message in the Processing Log: *"Abstract has been populated with Grade Code from the CDA histology.*
1.f	If NAACCR Grade Clinical [#3843] is not populated AND CDA Histologic Type has six numeric values (exclude M, -, --, /) AND the 6th numeric value to NAACCR Grade Clinical [#3843] is not in the TRANS_GRADE_AJCC7toAJCC8_CDA table: Record the following message in the Processing Log: *"Grade code was unknown or null in CDA Report. The Grade Code from the CDA histology is an invalid code."*
1.g	If NAACCR Grade Clinical is empty/blank, set Grade_Clinical [#3843] = '9' and Grade_Path [#3844] = '9'
1.h	If NAACCR Grade Pathological [#3844] is blank/empty, set Grade Pathological [#3844] = '9'
	Text--Histology Title [#2590]
1	Append Cancer Diagnosis Entry/Histologic Type/Original Text with tag "*hist orig text:*" to NAACCR Text--Histology Title.
2	Append Cancer Diagnosis Entry/Histologic Type/Display Name with tag "*hist disp name:*" to NAACCR Text--Histology Title.
3	Append Cancer Diagnosis Entry/Behavior/Original Text with tag "*behav orig text:*" to NAACCR Text--Histology Title.
4	Append Cancer Diagnosis Entry/Behavior/Display Name with tag "*behav disp name:*" to NAACCR Text--Histology Title.
	Diagnostic Confirmation [#490]
1	Map CDA Diagnostic Confirmation to NAACCR Diagnostic Confirmation ICD-O-3.

Rule #	Mapping/Translation Rules
2	If CDA Diagnostic Confirmation is not provided (null flavor) and value/originalText is provided, record the following message in the Processing Log: "*Diagnostic Confirmation code was unknown or null in CDA Report; original text Diagnostic Confirmation information is provided.*"
	Text--DX Proc--Path [#2570]
1	Append CDA Cancer Dx Section/t**ext**/paragraph with tag "*CaDiagSection text:*" to NAACCR Text--DX Proc--Path.
2	Append CDA Cancer Diagnosis Entry/Diagnostic Confirmation/Original Text, with tag "*dx conf orig text*:" to NAACCR Text--DX Proc--Path.
3	Append CDA Cancer Diagnosis Entry/Diagnostic Confirmation/Display Name, with tag "*dx conf disp name*:" to NAACCR Text--DX Proc--Path.

Primary Site [#400]

Laterality [#410]

Text--Primary Site Title [#2580]

Rule #	Mapping/Translation Rules
	Primary Site [#400]
1	Map CDA Cancer Diagnosis Observation targetSiteCode to NAACCR Item Primary Site.
1.a	Translate ICD-9-CM code (OID 2.16.840.1.113883.6.103) using eMaRC Table: TRANS_ICD9_ CDA.
1.a.1	If CDA targetSite code is ICD-9-CM (OID 2.16.840.1.113883.6.103) and cannot be translated using eMaRC Table: TRANS_ICD9_ CDA, set NAACCR Primary Site (#400) = "C809".
1.b	Translate ICD-10-CM code (OID 2.16.840.1.113883.6.90) using eMaRC Table: TRANS_ICD10_CDA.
1.b.1	If CDA targetSite code is ICD-10-CM (OID 2.16.840.1.113883.6.90) and cannot be translated using eMaRC Table: TRANS_ICD10_ CDA, set NAACCR Primary Site (#400) = "C809".
1.c	Translate SNOMEDCT code (OID 2.16.840.1.113883.6.96) using eMaRC Table: TRANS_SNOMED_ICDO3_Prim_CDA.
1.c.1	If CDA targetSite code is SNOMEDCT (OID 2.16.840.1.113883.6.90) and cannot be translated using eMaRC Table: TRANS_SNOMED_ICDO3_Prim_CDA, set NAACCR Primary Site (#400) = "C809".
2	***After translating BOTH the CDA histology to the ICDO-3 histology and translating the CDA targetSite code to ICDO-3 primary site*** Re-code primary site when ABSTRACT histologic code is melanoma or sarcoma.
2.a	Determine whether the ICDO-3 histology code is in the range of (8720-8790) or (8800-8920)
2.a.1	If it is not in the histology ranges, no further action is needed for primary site
2.a.2	If it is the histology range(s), continue
2.b	For SNOMED-CT target site code:
2.b.1	Determine whether the temporarily translated ICDO-3 primary site code is in the range of (C760 – C768, C809).
2.b.1.a	If it is not C760-C768, C809, no further action is needed for primary site
2.b.1.b	If it is C760-C678, C809, continue
2.b.2	Look up the CDA Document's targetSite code in "HL7Code" column of the TRANS_ICDO_Prim_MELANOMA_SARCOMA table and select the final ICDO-3 Primary site code from the column that matches the abstract's translated ICDO-3 histology.
2.b Note	Note: "C760-C768, C809" are only temporary site codes, used to determine whether a SNOMEDCT targetSite should be translated to a melanoma or sarcoma specific ICDO-3 site.

Rule #	Mapping/Translation Rules
2.c	For ICD9 and ICD10 target site codes:
2.c.1	Look up the translated Primary Site code in “HL7Code” column of the TRANS_ICDO_Prim_MELANOMA_SARCOMA table and select the final ICDO-3 Primary site code from the column that matches the abstract’s translated ICDO-3 histology.
	Laterality [#410]
1	Map CDA Laterality to NAACCR Item Laterality.
2	If CDA Laterality is not provided (null flavor).
2.a	Update NAACCR Item Laterality using TRANS_LATER_BASED_ON_SITE_CDA.
2.b	Record the following message in the Processing Log: *“Laterality code was unknown or null in CDA Report. Abstract has been populated with Laterality derived from NAACCR Primary Site through crosswalk.”*
3	If NAACCR Item Laterality is "9 – Unknown" and NAACCR Item Behavior [#410] is "2", Update NAACCR Item Laterality to be "3 - Only one site involved, right or left origin unspecified".
4	If CDA Laterality is not provided (null flavor) AND the targetSite value IS from the ICD-10-CM Code System (2.16.840.1.113883.6.90).
4.a	Update NAACCR Item Laterality using TRANS_ICD10_SITELATHISBEH_CDA.
4.b	Record the following message in the Processing Log: *“Laterality was unknown or null in CDA Report. Abstract has been populated with Laterality Code derived from CDA primary site code (ICD10 CM diagnosis code) through crosswalk.”*
	Text--Primary Site Title [#2580]
1	Append CDA Cancer Diagnosis Entry/Primary Site (targetSiteCode)/Display Name with tag "*site disp name:*" to NAACCR Text--Primary Site Title.
2	Append Cancer Diagnosis Entry/Laterality Original Text with tag “*lat orig text:*” to NAACCR Text--Primary Site Title.
3	Append Cancer Diagnosis Entry/Laterality/Display Name with tag “*lat disp name:*” to NAACCR Text--Primary Site Title.

CLINICAL TNM STAGING

TNM Edition Number [#1060]

Note: eMaRC determines which set of rules (below) to use based on TNM Edition, i.e., AJCC 7th Edition or AJCC 8th Edition.

If year of Date of Diagnosis is 2016 or later, NAACCR TNM Clinical Stage Group cannot be blank. NAACCR TNM Clinical Stage may be blank if the diagnosis year is less than 2016.

Regardless of diagnosis year, if the CDA TNM Clinical Stage Group is blank/empty, eMaRC will derive the value, based on site/histology, to be either “99-Unknown, not staged” or “88 –Not applicable, no code assigned for this case in the current AJCC Staging Manual”.

Rule #	Mapping/Translation Rules
1	If CDA TNM Clinical Stage Group is NOT present (blank/empty/null flavor=’UNK’, ‘NI’), Record the following message to processing log: "*No stage information was added to the abstract because the TNM Clinical Stage Group was not provided."*

Rule #	Mapping/Translation Rules
	Continue processing with rules below for "Set Default Values for AJCC TNM Clinical Elements".
2	Translate CDA TNM Edition to TNM Edition Number [#1060] using TRANS_TNMEDITION_CDA table
2.a	If **NAACCR** TNM Edition Number is blank/empty/null flavor: Record the following message to processing log: *"No stage information was added to the abstract because TNM Edition Number <value> cannot be translated".* **Continue processing with rules below for "Set Default Values for AJCC TNM Clinical Elements".**
	Determine whether NAACCR TNM Edition and DX Date are discrepant
3	If CDA Diagnosis Date is 2018 or greater AND NAACCR TNM Edition is "07": Record the following message to processing log: *"No stage information was added to the abstract because the dxdate and the TNM edition are discrepant".* **Continue processing with rules below for "Set Default Values for AJCC TNM Clinical Elements".**
3.a	If CDA Diagnosis Date is 2017 or earlier AND NAACCR TNM Edition is "08": Record the following message to processing log: *"No stage information was added to the abstract because the dxdate and the TNM edition are discrepant".* **Continue processing with rules below for "Set Default Values for AJCC TNM Clinical Elements".**
	Determine which set of rules to use to process Clinical TNM Staging Section information, below.
4	If NAACCR TNM Edition is "07", use the following rules to process the remaining TNM data elements: • 7th Edition – CLINICAL TNM Staging
4.a	If NAACCR TNM Edition is "08": • 8th Edition – CLINICAL TNM Staging

7th Edition – CLINICAL TNM Staging

TNM Clin Stage Group [#970]

TNM Clin Descriptor [#980]

TNM Clin Staged By [#990]

TNM Clin T [#940]

TNM Clin N [#950]

TNM Clin M [#960]

Rule #	Mapping/Translation Rules
	TNM Clin Stage Group [#970]

Rule #	Mapping/Translation Rules
1	Translate CDA TNM Clinical Stage Group to NAACCR TNM Clin Stage Group [#970] using TRANS_AJCC7_CLIN_STAGEGROUP_CDAtable
1.a	If CDA TNM Clinical Stage Group is not in TRANS_AJCC7_CLIN_STAGEGROUP_CDAtable: Record the following message to processing log: *"TNM Clinical Stage Group value <value> cannot be translated."* Go to "**Set Default Values for AJCC TNM Clinical Elements" rules for processing.**
	TNM Clin Descriptor [#980]
2	If CDA TNM Clinical Stage Descriptor is present and Date of Diagnosis year is between 2014 and 2017, map CDA TNM Clinical Stage Descriptor directly to NAACCR TNM Clin Descriptor [#980].
2.a	If NAACCR Date of Diagnosis year is between 2014 and 2017 and CDA TNM Clinical Stage Descriptor is NOT present (blank/empty/nullFlavor='UNK'), set TNM Clin Descriptor = '9'
2.b	If NAACCR Date of Diagnosis year is less than 2014 or is greater than 2017, set NAACCR TNM Clin Descriptor to be Blank
	TNM Clin Staged By [#990]
3	Translate CDA Stager Clinical Cancer to TNM Clin Staged By [#990] using TRANS_STAGED_BY_CDA table**.**
3.a	If CDA TNM Stager Clinical Cancer is blank/empty or is null flavor, set NAACCR TNM Clin Staged By to "99"
	TNM Clin T [#940]
4	Translate CDA TNM Clinical T to TNM Clin T [#940] using TRANS_AJCC7_CLIN_T.
4.a	If CDA TNM Clinical T is not in TRANS_AJCC7_CLIN_T table, leave TNM Clinical T = blank/empty. Record the following message to processing log: "CDA *TNM Clinical T value <value> cannot be translated".*
	TNM Clin N [#950]
5	Translate CDA TNM Clinical N to TNM Clin N [#950] using TRANS_AJCC7_CLIN_N.
5.a	If CDA TNM Clinical N is not in TRANS_AJCC7_CLIN_N table, leave TNM Clinical N = blank/empty. Record the following message to processing log: "CDA *TNM Clinical N value <value> cannot be translated".*
	TNM Clin M [#960]
6	Translate CDA TNM Clinical M to TNM Clin M [#960] using TRANS_AJCC7_CLIN_M.
6.a	If CDA TNM Clinical M is not in TRANS_AJCC7_CLIN_M table, leave TNM Clinical M = blank/empty. Record the following message to processing log: "CDA *TNM Clinical M value <value> cannot be translated".*
7	Continue processing with rules for "Text--Staging [#2600]" (below)

8th Edition – CLINICAL TNM Staging

AJCC TNM Clin Stage Group [#1004]

TNM Clin Staged By [#990]

AJCC TNM Clin T [#1001]

AJCC TNM Clin N [#1002]

AJCC TNM Clin M [#1003]

AJCC ID [#995]

Schema ID [#3800]

Rule #	Mapping/Translation Rules
1	Determine AJCC ID [#995] and (SSDI) Schema ID [#3800] using TNM dll and populate abstract with these values
	AJCC TNM Clin Stage Group [#1004]
2	Translate CDA TNM Clinical Stage Group to NAACCR AJCC TNM Clin Stage Group [#1004] using TRANS_AJCC8_CLIN_STAGEGROUP_CDA table
2.a	If CDA TNM Clinical Stage Group is not in TRANS_AJCC8_CLIN_STAGEGROUP_CDA table: Record the following message to processing log: *"CDA TNM Clinical Stage Group value <value> cannot be translated."* Go to "**Set Default Values for AJCC TNM Clinical Elements" rules for processing.**
	TNM Clin Staged By [#990]
3	Translate CDA Stager Clinical Cancer to TNM Clin Staged By [#990] using TRANS_STAGED_BY_CDA table**.**
3.a	If CDA TNM Stager Clinical Cancer is blank/empty, or is null flavor, set NAACCR TNM Clin Staged By to "99".
	AJCC TNM Clin T [#1001]
4	Translate CDA TNM Clinical T to NAACCR AJCC TNM Clin T [#1001] using TRANS_AJCC8_CLIN_T.
4.a	If CDA TNM Clinical T is not in TRANS_AJCC8_CLIN_T table, leave NAACCR AJCC TNM Clinical T = blank/empty. Record the following message to processing log: "CDA *TNM Clinical T value <value> cannot be translated".*
	AJCC TNM Clin N [#1002]
5	Translate CDA TNM Clinical N to NAACCR AJCC TNM Clin N [#1002] using TRANS_AJCC8_CLIN_N.
5.a	If CDA TNM Clinical N is not in TRANS_AJCC8_CLIN_N table, leave NAACCR AJCC TNM Clinical N = blank/empty. Record the following message to processing log: "CDA *TNM Clinical N value <value> cannot be translated".*
	AJCC TNM Clin M [#1003]
6	Translate CDA TNM Clinical M to NAACCR AJCC TNM Clin M [#1003] using TRANS_AJCC8_CLIN_M.

Rule #	Mapping/Translation Rules
6.a	If CDA TNM Clinical M is not in TRANS_AJCC8_CLIN_M table, leave NAACCR AJCC TNM Clinical M = blank/empty. Record the following message to processing log: "CDA *TNM Clinical M value <value> cannot be translated".*
7	Continue processing with rules for "Text--Staging [#2600]" (below)

Set Default Values for AJCC TNM Clinical Elements

Rule #	Mapping/Translation Rules
1	**If CDA Diagnosis Date is 2018 or greater**, determine AJCC ID [#995] and (SSDI) Schema ID [#3800] using TNM dll and populate abstract with these values
1.a	If AJCC ID is a value other than "XX" (TNM Clinical Stage Group is Blank/Null): set NAACCR AJCC TNM Clin Stage Group [#1004] to be "99" set TNM Edition Number [#1060] to be "00" set TNM Clinical Staged By [#990] to be "99" Leave NAACCR TNM Clinical Stage Descriptor blank Continue processing with rules for "Text--Staging [#2600]" (below)
1.b	If AJCC Schema ID is "XX" (TNM Clinical Stage Group is Blank/Null): set NAACCR AJCC TNM Clin Stage Group [#1004] to be "88" set TNM Edition Number [#1060] to be "88" set TNM Clinical Staged By [#990] to be "88" set NAACCR AJCC TNM Clin Stage T [#1001] to be "88" set NAACCR AJCC TNM Clin Stage N [#1002] to be "88" set NAACCR AJCC TNM Clin Stage M [#1003] to be "88" Continue processing with rules for "Text--Staging [#2600]" (below)
2	**If CDA Diagnosis Date is 2017 or earlier**, use TRANS_STAGE_DEFAULTS Table to determine whether to set TNM Clin Stage Group to "88" or "99".
2.a	If NAACCR Primary Site and NAACCR Histology appear on the same row in TRANS_STAGE_DEFAULTS Table, set TNM Clin Stage Group [#970] to be "99" set TNM Clinical Stage Descriptor [#980] to be "9" set TNM Edition Number [#1060] to be "00" set TNM Clinical Staged By [#990] to be "99" Continue processing with rules for "Text--Staging [#2600]" (below)
2.b	If NAACCR Primary Site and NAACCR Histology are not on the same row in TRANS_STAGE_DEFAULTS, set TNM Clin Stage Group [#970] to be "88" set TNM Clinical Stage Descriptor [#980] to be "8" set TNM Edition Number to [#1060] be "88" set TNM Clinical Staged By [#990] to be "88" set TNM Clin Stage T [#940] to be "88" set TNM Clin Stage N [#950] to be "88" set TNM Clin Stage M [#960] to be "88"

Rule #	Mapping/Translation Rules
	Continue processing with rules for “Text--Staging [#2600]” (below)

Text Staging [#2600]

Rule #	Mapping/Translation Rules
	Text--Staging [#2600]
1	Append Cancer Diagnosis Entry/TNM Clinical Stage Group/Original Text with tag “*Clin Stage Grp orig text:*” to Text--Staging [#2600].
2	Append Cancer Diagnosis Entry/TNM Clinical Stage Descriptor/Display Name with tag “*Clin Stage descript disp name:*” to Text--Staging [#2600].
3	Append Cancer Diagnosis Entry, TNM Edition Number Display Name with tag “*TNM Ed disp name:*” to Text--Staging [#2600].
4	Append Cancer Diagnosis Entry/TNM Clinical T, N, and M/Original Text with tag “*Clin T orig text:*”, “*Clin N orig text:*”, or “*Clin M orig text:*” to Text--Staging [#2600].
5	Append Cancer Diagnosis Entry/TNM Clinical T, N, and M/Display Name with tag “*Clin T disp name:*”, “*Clin N disp name:*”, or “*Clin M disp name:*” to Text--Staging [#2600].
6	Map CDA Cancer Diagnosis Observation text with tag *“Cancer/Staging:”* to NAACCR Text—Staging.

PATHOLOGIC TNM STAGING

AJCC TNM Path Stage Group [#1014]

TNM Path Staged By [#930]

AJCC TNM Path T [#1011]

AJCC TNM Path N [#1012]

AJCC TNM Path M [#1013]

TNM Edition Number [#1060]

Set Default Values for AJCC TNM Pathological Elements

Rule #	Mapping/Translation Rules
1	**If CDA Diagnosis Date is 2018 or greater**, determine AJCC ID [#995] and (SSDI) Schema ID [#3800] using TNM dll and populate abstract with these values
1.a	If AJCC ID is a value other than “XX” (TNM Pathological Stage Group is Blank/Null): set NAACCR AJCC TNM Path Stage Group [#1014] to be “99” set TNM Edition Number [#1060] to be “00” set TNM Pathologic Staged By [#930] to be “99”
1.b	If AJCC Schema ID is “XX” (TNM Pathological Stage Group is Blank/Null):

Rule #	Mapping/Translation Rules
	set NAACCR AJCC TNM Path Stage Group to be “88” set TNM Edition Number [#1060] to be “88” set TNM Pathologic Staged By [#930] to be “88” set NAACCR AJCC TNM Path Stage T [#1011] to be “88” set NAACCR AJCC TNM Path Stage N [#1012] to be “88” set NAACCR AJCC TNM Path Stage M [#1013] to be “88”
2	**If CDA Diagnosis Date is 2017 or earlier**, use TRANS_STAGE_DEFAULTS Table to determine whether to set TNM Path Stage Group to “88” or “99”.
2.a	If NAACCR Primary Site and NAACCR Histology appear on the same row in TRANS_STAGE_DEFAULTS Table, set TNM Path Stage Group [#910] to be “99” set TNM Pathologic Stage Descriptor [#920] to be “9” set TNM Edition Number [#1060] to be “00” set TNM Pathologic Staged By [#930] to be “99”
2.b	If NAACCR Primary Site and NAACCR Histology are not on the same row in TRANS_STAGE_DEFAULTS, set TNM Path Stage Group [#910] to be “88” set TNM Pathologic Stage Descriptor [#920] to be “8” set TNM Edition Number [#1060] to be “88” set TNM Pathologic Staged By [#930] to be “88” set TNM Path Stage T [#880] to be “88” set TNM Path Stage N [#890] to be “88” set TNM Path Stage M [#900] to be “88”

Summary Stage

eMaRC Rule Selection of Summary Stage 2000 [#759] or Summary Stage 2018 [#764]

Note: This is the first step for processing Summary Stage.

Rule #	Mapping/Translation Rules
	Determine which data item to populate
1	If NAACCR Diagnosis Date Year is <= 2017, populate Summary Stage 2000 (rules are below).
1.a	If NAACCR Diagnosis Date Year is >= 2018, populate Summary Stage 2018 (rules are below).
1.b	If NAACCR Diagnosis Date Year is blank/empty, do not populate either Summary Stage 2000 or Summary Stage 2018.

Summary Stage 2000 [#759]

Rule #	Mapping/Translation Rules
	Summary Stage 2000 [#759]
1	Blood/bone marrow disease primary sites: IF **Translated** Primary Site [#400] code value in (C420, C421, C423, C424,) Set Summary Stage 2000 [#759] = “7”.

Rule #	Mapping/Translation Rules
2	Blood/bone marrow disease histologies: IF **Translated** Histology [#522] code value in (9760-9763, 9800-9820, 9826, 9831-9992), Set Summary Stage 2000 [#759] = “7”.
3	IF both **Translated** Clinical Stage Group [#970] code value = (“0” or “0A” or “0IS”) AND **Translated** Pathologic Stage Group [#910] code value = (“0” or “0A” or “0IS”) OR IF **Translated** Clinical Stage Group [#970] code value = (“0” or “0A” or “0IS”) AND Translated Pathologic Stage Group [#910] is “99” OR IF **Translated** Clinical Stage Group [#970] is “99” AND Translated Pathologic Stage Group [#910] code value = (“0” or “0A” or “0IS”) Set Summary Stage 2000 [#759] = “0”.
4	IF **Translated** TNM Clin M [#960] code value begins with “c1” or **Translated** TNM Path M [#900] code value begins with “p1”, Set Summary Stage 2000 [#759] = “7”.
5	If [Translated (Clinical Stage T = (“c1” or “p1”) and Clinical Stage N = “c0” and Clinical Stage M = “c0”) and Translated (Pathologic Stage T = “p1” and Pathologic Stage N = “p0” and Pathologic Stage M is any of (“pX”, “c0”, or “c0I+”)] OR [If Translated Pathologic (T, N, and M) are empty/blank, AND Translated (Clinical Stage T = (“c1” or “p1”) and Clinical Stage N = “c0” and Clinical Stage M = “c0”)] OR [If Translated Clinical (T, N, and M) are empty/blank AND Translated (Pathologic Stage T = “p1” and Pathologic Stage N = “p0” and Pathologic Stage M is any of (“pX”, “c0”, “c0I+”)] Set Summary Stage 2000 [#759] = “1”.
6 (AJCC 7)	IF **Translated** Primary Site [#400] code value = “C619”, use the table identified within the rule to set Summary Stage 2000 [#759].
6.a (AJCC7)	If the translated TNM Clin T [#940], TNM Clin N [#950], and TNM Clin M [#960] match a row in the TRANS_STAGE_PROSTATE_AJCC7_CLIN_CDA Table, Set Summary Stage 2000 [#759] = the corresponding SEERSummStg2000 value in the same row.
7 (AJCC7)	IF **Translated** Primary Site [#400] code value = “C670-C679”, use the table identified within the rule to set NAACCR SEER Summary Stage 2000:
7.a (AJCC7)	If the translated TNM Clin T [#940], TNM Clin N [#950], and TNM ClinM [#960] match a row in the TRANS_STAGE_BLADDER_AJCC7_CDA Table, Set Summary Stage 2000 [#759] to be equal the corresponding SEERSummStg2000 value in the same row.
8 (AJCC7)	IF **Translated** Histology [#522] code value = “8720-8780”, use the table identified within the rule to set NAACCR SEER Summary Stage 2000:
8.a (AJCC7)	If the translated TNM Clin T [#940], TNM Clin N [#950], and TNM ClinM [#960] match a row in the TRANS_STAGE_MELANOMA_AJCC7_CLIN_CDA Table, Set Summary Stage 2000 [#759] to be equal the SEERSummStg2000 corresponding value in the same row.
9	If the Translated Summary Stage 2000 [#759] is blank/empty, set Translated Summary Stage 2000 = “9”. (Note: Summary Stage 2000 will most likely be available on the cancer registry submitted abstract for these cases.)

Rule #	Mapping/Translation Rules
10	Leave Summary Stage 2018 [#764] blank

Summary Stage 2018 [#764]

Rule #	Mapping/Translation Rules
	Summary Stage 2018 [#764]
1	Blood/bone marrow disease histologies: IF **Abstract** Histology [#522] code value in (9591, 9724, 9727, 9741, 9742, 9762, 9800 , 9801, 9806-9809, 9811-9815, 9817, 9820, 9832-9834, 9837, 9840, 9860, 9861, 9863, 9865-9867, 9869-9876, 9891, 9895, 9896, 9897, 9898, 9910, 9911, 9920, 9931, 9940, 9945, 9946, 9948, 9950, 9961-9967, 9975, 9980, 9982, 9983, 9985, 9986, 9989, 9991, 9992), Set Summary Stage 2018 [#764] = “7”.
2 (AJCC 8)	IF both **Abstract** AJCC TNM8 Clin Stage Group [#1004] code value = (“0” or “0A” or “0IS”) AND **Abstract** AJCC TNM8 Path Stage Group [#1014] code value = (“0” or “0A” or “0IS”)) **OR** IF **Abstract** AJCC TNM8 Clin Stage Group [#1004] code value = (“0” or “0A” or “0IS”) AND (AJCC TNM8 Path Stage Group [#1014] “99”) **OR** IF **Abstract** AJCC TNM8 Clin Stage Group [#1004] is “99” AND (AJCC TNM8 Path Stage Group [#1014] code value = (“0” or “0A” or “0IS”) Set Summary Stage 2018 [#764] = “0”.
3 (AJCC 8)	If the **Abstract** Summary Stage 2018 [#764] is blank/empty: IF **Abstract** AJCC8 TNM Clin M [#1003] code value begins with “cM1” or "pM1" **OR** **Abstract** AJCC TNM8 Path M [#1013] code value begins with "cM1" or "pM1”, Set Summary Stage 2018 [#764] = “7”.

4 (AJCC 8)	If the **Abstract** Summary Stage 2018 [#764] is blank/empty:
	If (**Abstract** AJCC TNM8 Clin T [#1001] = “cT1” or “pT1” and AJCC TNM8 Clin N [#1002] = “cN0” and AJCC TNM8 Clin M [#1003]= “cM0” or "cM0(i+)") AND [(**Abstract** AJCC TNM8 Path Stage T [#1011] = “pT1” or "cT1" and AJCC TNM8 Path N [#1012]= “pN0” or "cN0" and AJCC TNM8 Path M [#1013] is (“cM0”, or “cM0(i+)”) = "cM0" or "cM0(i+)")]
	OR
	If (**Abstract** AJCC TNM Clin T [#1001] = “cT1” or “pT1” and AJCC TNM Clin N [#1002] = “cN0” and AJCC TNM Clin M [#1003] = “cM0”) and [(**Abstract** AJCC TNM Path Stage T [#1011] = blank and AJCC TNM Path N [#1012] = blank and AJCC TNM Path M [#1013] = blank]
	OR
	If (**Abstract** AJCC TNM8 Clin T [#1001] = blank and AJCC TNM8 Clin N [#1002] = blank and AJCC TNM8 Clin M [#1003]= blank and [(**Abstract** AJCC TNM8 Path Stage T [#1011] = “pT1” or "cT1" and AJCC TNM8 Path N [#1012]= “pN0” or "cN0" and AJCC TNM8 Path M [#1013] is (“cM0”, or “cM0(i+)”)]
	Set Summary Stage 2018 [#764] = “1”.

	Summary Stage 2018 [#764] for specific cancers (bladder, melanoma, skin)
5 (AJCC8)	If the **Abstract** Summary Stage 2018 [#764] is blank/empty AND the **Abstract** Primary Site [#400] code value = “C619” (Prostate), use the table identified within the rule to set Summary Stage 2018 [#764].

Rule #	Mapping/Translation Rules
5.a (AJCC8)	If the **Abstract** AJCC TNM8 Clin T [#1001], AJCC TNM Clin N [#1002], and AJCC TNM8 Clin M [#1003] match a row in the TRANS_STAGE_PROSTATE_AJCC8_CLIN_CDA Table, Set Summary Stage 2018[#764] = the corresponding SEERSummStg2018 value in the same row.
6 (AJCC8)	If the **Abstract** Summary Stage 2018 [#764] is blank/empty AND the **Abstract** Primary Site [#400] code value = "C670-C679" (Bladder), use the table identified within the rule to set Summary Stage 2018 [#764]:
6.a (AJCC8)	If the **Abstract** AJCC TNM8 Clin T [#1001], AJCC TNM8 Clin N [#1002], and AJCC TNM8 Clin M [#1003] match a row in the **TRANS_STAGE_BLADDER_AJCC8_CLIN_CDA** Table, Set Summary Stage 2018 [#764] to be equal the corresponding SEERSummStg2018 value in the same row.
7 (AJCC8)	If the **Abstract** Summary Stage 2018 [#764] is blank/empty AND the **Abstract** Histology [#522] code value = "8720-8790" (Melanoma), use the table identified within the rule to set Summary Stage 2018 [#764]:
7.a (AJCC8)	If the **Abstract** AJCC TNM8 Clin T [#1001], AJCC TNM8 Clin N [#1002], and AJCC TNM8 Clin M [#1003] match a row in the **TRANS_STAGE_MELANOMA_AJCC8_CLIN_CDA** Table, Set Summary Stage 2018 [#764} to be equal the corresponding SEERSummStg2018 value in the same row.
8	If the **Abstract** Summary Stage 2018 [#764] is blank/empty, set **Abstract** Summary Stage 2018= "9". (Note: Summary Stage 2018 will most likely be available on the cancer registry submitted abstract for these cases.)
9	Leave Summary Stage 2000 [#759] blank

RX Summ--Surg Prim Site [#1290]

RX Hosp--Surg Prim Site [#670]

RX Date Surg [#1200]

RX Date Surg Flag [#1201]

RX Date Mst Defn Srg [#3170]

RX Date Mst Defn Srg Flag [#3171]

Text--DX Proc--Op [#2560]

RX Text--Surgery [#2610]

Reason for No Surgery [#1340]

Note1:	The Cancer Directed Procedure table (from VCU) has been developed that lists all of the cancer directed surgeries. Each of the surgery codes have been linked to the appropriate ICD-O-3 topography (site) codes. (Procedures that are routinely performed for the cancer site.)
Note 2:	When a CDA document has more than one cancer diagnosis entry, eMaRC will create a separate abstract for each cancer diagnosis entry. eMaRC will write a WARNING message to the processing log to indicate that multiple abstracts have been created representing the multiple cancer diagnoses due to the fact that linkage and coding of procedures, treatment, and results for each of the multiple cancer diagnoses could possibly be incorrect and may warrant manual review (either within eMaRC Plus or the central registry software).

Note3:	In dermatology settings, you may receive CDA documents that have more than one melanoma diagnosis or a combination of a melanoma and a non-reportable skin cancer. eMaRC will use the most extensive procedure listed in the CDA report because the melanoma diagnosis can reasonably be expected to have had the most extensive procedure.
Note4:	Not all central registries collect RX Hosp--Surg Prim Site [#670]. eMaRC will always populate RX Summ--Surg Prim Site [#1290] and may also populate RX Hosp--Surg Prim Site where it is able.
Note5:	Some vendors will include all procedures past and present, whether performed by the submitting provider or some other provider (including hospital).

Rule #	Mapping/Translation Rules
	For each procedure code in the **Procedures Section**, perform the following steps. Whenever "end of processing for that procedure code" is indicated, return to beginning of this process for next procedure code. When all of the procedure codes have been processed, continue processing with rules for "Final steps for processing Procedures Section".
1	Determine if the Procedure meets criteria for use.
2	No Procedure Date [#1200] OR no Diagnosis Date [#390].
2.a	If the Procedure Code Date is Null or the Diagnosis Date is Null: 1. Do not populate RX Summ--Surg Prim Site or RX Hosp--Surg Prim Site, RX Date Surg or Date of Most Definitive Surgical Resection of the Primary Site. 2. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:"* and "*OrigText:"* preceding the appropriate data. 3. Record the following message into the Processing Log: "*No procedure date was provided for the procedure code [ ] or no diagnosis date for the cancer is available.*" End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for **"**Final steps for processing Procedures Section"**.**
3	If Surgery (Start Date) or Diagnosis Date is partial
3.a	If only the year is provided AND if the Surgery (Start) Date Year is before the Diagnosis Date, or more than one year after the Diagnosis Date: 1. Do not write a message into the Processing Log. 2. Do not populate any NAACCR abstract surgery field. End of processing for that Surgery.
3.b	If only the year is provided AND If the Surgery (Start) Date Year is equal to or one year after the Diagnosis Date: continue processing with rules for "Populate: RX Summ--Surg Prim Site".
3.c	If month and year are provided, consider the missing date component to be equal to the known date component AND if the Surgery (Start Date) is more than one year after the cancer diagnosis date: 1. Record the following message to the Processing Log, "*Procedure [ ] is more than one year after the cancer diagnosis date.*" 2. Do not populate any NAACCR abstract surgery field. End of processing for that Surgery.

Rule #	Mapping/Translation Rules
3.d	If month and year are provided, consider the missing date component to be equal to the known date component AND If the Surgery (Start) Date is less than or equal to one year after the cancer diagnosis date, continue processing with rules for “Populate: RX Summ--Surg Prim Site”.
4	Not a Cancer-Directed Procedure - for both RX Summ--Surg Prim Site [#1290] and RX Hosp--Surg Prim Site [#670].
4.a	If the procedure code **is not in** the Cancer Directed Procedure Table or is a nullFlavor: 1. Do not populate RX Summ--Surg Prim Site or RX Hosp--Surg Prim Site, RX Date Surg or Date of Most Definitive Surgical Resection of the Primary Site. 2. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:"* and "*OrigText:"* preceding the appropriate data. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for **“**Final steps for processing Procedures Section”.
5	Cancer Directed Procedure before the Diagnosis Date - for both RX Summ--Surg Prim Site [#1290] and RX Hosp--Surg Prim Site [#670]
5.a	IF procedure code is the Cancer Directed Procedure Table AND the date of the procedure is before the diagnosis date NOTE: a * in the primary site column is a wildcard that matches all values in for NAACCR primary site: 1. Do not populate RX Summ--Surg Prim Site or RX Hosp--Surg Prim Site, RX Date Surg or Date of Most Definitive Surgical Resection of the Primary Site. 2. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for **“**Final steps for processing Procedures Section”.
6	Cancer Directed Procedure is On or After Diagnosis Date and Primary Site DOES NOT MATCH any of the sites submitted in the CDA Document - for both RX Summ--Surg Prim Site [#1290] and RX Hosp--Surg Prim Site [#670]
6.a	Using the Cancer Directed Procedure Table, If the primary site column value for the procedure code **does not** match the translated (ICDO-3) primary site code values: 1. Do not populate RX Summ--Surg Prim Site or RX Hosp--Surg Prim Site, RX Date Surg or Date of Most Definitive Surgical Resection of the Primary Site. 2. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. 3. Record the following message into the Processing Log: *Procedure [x] not mapped because it is not included in the Site-Specific Procedure Translation table (PROCEDURETRANSLATION) for the primary site.* End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for **“**Final steps for processing Procedures Section”.
7	Populate: RX Summ--Surg Prim Site [#1290] using the criteria in sequence below (Cancer Directed Procedure is On or After Diagnosis Date and primary site MATCHES the site submitted in the CDA Document.)

Rule #	Mapping/Translation Rules
7.a	Using the Cancer Directed Procedure Table, If the primary site column value for the procedure code **matches** the translated (ICDO-3) primary site code value, and the RX Summ--Surg Prim Site code **is blank/null:** 1. Populate RX Summ--Surg Prim Site with the translated procedure code 2. Populate RX Date Surg with the date associated with this procedure code 3. Populate Date of Most Definitive Surgical Resection of the Primary Site [#3170] with the date associated with this procedure code. 4. Populate Reason for No Surgery [#1340] with "0" 5. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for Populate RX Hosp--Surg Prim Site".
7.b	Using the Cancer Directed Procedure Table, If the primary site column value for the procedure code **matches** the translated (ICDO-3) primary site code value, AND the new FORDS code **is more extensive*** than the existing RX Summ--Surg Prim Site code: 1. Replace the RX Summ--Surg Prim Site code with this procedure code. 2. Replace the Date of Most Definitive Surgical Resection of the Primary Site with the date associated with this procedure code. 3. If the Procedure Date for this procedure is earlier than the RX Date Surg [#1200], replace the RX Date Surg with this procedure date. 4. Populate Reason for No Surgery [#1340] with "0". 5. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for "Populate RX Hosp--Surg Prim Site".
7.c	Using the Cancer Directed Procedure Table, If the primary site column value for the procedure code matches the translated (ICDO-3) primary site code value, AND the new FORDS code is **less extensive*** than the existing RX Summ--Surg Prim Site code: 1. Do not populate RX Summ--Surg Prim Site. 2. Do not populate Date of Most Definitive Surgical Resection of the Primary Site 3. If the Procedure Date for this procedure is earlier than the RX Date Surgery [#1200], replace the RX Date Surgery with this procedure date. 4. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. 5. Record the following message into the Processing Log: *A procedure was submitted for this cancer that is less extensive than the RX Summ--Surg Prim Site code.**Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for "Populate RX Hosp--Surg Prim Site".
8	Populate RX Hosp--Surg Prim Site using the criteria in sequence below to determine whether the procedure was performed at the submitting facility. Note: The CDA surgery code should have already passed the criteria above (A.1 - A.4) (have a date after the Diagnosis Date [#390], must be cancer-directed and the translated site must match the site in the Cancer Directed Surgery Table.)
8.a	Using Provider NPI
8.a.1	If no provider NPI is recorded for the procedure used to populate RX Summ--Surg Prim Site, continue processing with rules for "No Provider NPI, Using provider organization NPI number".

Rule #	Mapping/Translation Rules
8.a.2	If the provider NPI number for the procedure is the NOT the same as the provider NPI number for the encounter, continue processing with rules for “No Provider NPI, Using provider organization NPI number”.
8.a.3	If the provider NPI number for the procedure is the same as the provider NPI number for the encounter AND the new FORDS code is **MORE extensive*** than the existing RX Hosp--Surg Prim Site code: 1. Replace the RX Hosp--Surg Prim Site code with current code. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for **“**Final steps for processing Procedures Section”. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
8.a.4	If the provider NPI number for the procedure is the same as the provider NPI number for the encounter AND the new FORDS code is **LESS extensive*** than the existing RX Hosp--Surg Prim Site code: 1. Do not populate RX Hosp--Surg Prim Site. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for “Final steps for processing Procedures Section”. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
8.a.5	End of processing for this procedure code
9	No Provider NPI, Using provider organization NPI number
9.a	If no provider **organization** NPI number, continue processing with rules for “No Provider NPI or Provider Organization NPI, Use provider organization name if present”.
9.b	If the provider **organization** NPI number within the procedure is the NOT the same as the provider **organization** NPI number for the encounter, continue processing with rules for “No Provider NPI or Provider Organization NPI, Use provider organization name if present”.
9.c	If the provider **organization** NPI number within the procedure is the same as the provider **organization** NPI number for the encounter AND the new FORDS code is **MORE extensive*** than the existing RX Hosp--Surg Prim Site code: 1. Replace the RX Hosp--Surg Prim Site code with this procedure code. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for “Final steps for processing Procedures Section”. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
9.d	If the provider **organization** NPI number within the procedure is the same as the provider **organization** NPI number for the encounter AND the new FORDS code is **LESS extensive*** than the existing RX Hosp--Surg Prim Site code: 1. Do not replace the RX Hosp--Surg Prim Site code. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for “Final steps for processing Procedures Section”. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
10	No Provider NPI or Provider Organization NPI, Use provider organization name if present
10.a	If no provider organization **name**, continue processing with rules for “No Provider NPI, Provider Organization NPI or Provider Organization Name”.

Rule #	Mapping/Translation Rules
10.b	If the provider organization **name** within the procedure is the NOT the same as the provider organization **name** for the encounter, continue with next criteria C.4, below.
10.c	If the provider organization **name** within the procedure is the same as the provider organization **name** for the encounter AND the new FORDS code is **MORE extensive*** than the existing RX Hosp--Surg Prim Site code: 1. Replace the RX Hosp--Surg Prim Site code with this procedure code. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for “Final steps for processing Procedures Section”. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
10.d	If the provider organization **name** within the procedure is the same as the provider organization **name** for the encounter AND the new FORDS code is **LESS extensive** than the existing RX Hosp--Surg Prim Site code: 1. Do not Replace the RX Hosp--Surg Prim Site code with this procedure code. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for “Final steps for processing Procedures Section”. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
11	No Provider NPI, Provider Organization NPI or Provider Organization Name
11.a	If none of the previous criteria (D1 - D3) have been met (i.e., it can’t be determined that the procedure has been performed by the reporting facility/provider): 1. Do not populate NAACCR RX Hosp--Surg Prim Site. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue processing with rules for “Final steps for processing Procedures Section”.
Final Steps	Final steps for processing Procedures Section.
1	After processing all procedure codes in the Procedures Section: If the RX Summ--Surg Prim Site is blank/empty, RX Summ--Surg Prim Site to be “99” (Unknown)
2	After processing all procedure codes in the Procedures Section: If the RX Hosp--Surgery is blank/empty, Set RX Hosp--Surgery to be “99” (Unknown)
	Populate RX Date Surgery Flag [#1201]
1	If RX Summ--Surg Prim Site is (01 - 98) and RX Date Surg is populated, leave RX Date Surg Flag blank/empty.
2	If RX Summ--Surg Prim Site is "99" and RX Date Surg is blank/empty, then set RX Date Surg Flag to the value of “10 -No information whatsoever can be inferred from this exceptional value (e.g., unknown if any surgical procedure was performed).”
	Populate Date of Most Definitive Surgical Resection of the Primary Site Flag [#3171]
1	If RX Summ--Surg Prim Site is populated with a value of (01 - 98), and Date of Most Definitive Surgical Resection of the Primary Site is populated, leave RX Date Surg Flag blank/empty.

Rule #	Mapping/Translation Rules
2	If RX Summ--Surg Prim Site is populated with a value of (01 - 98), and Date of Most Definitive Surgical Resection of the Primary Site is blank/empty, then set RX Date Surg Flag to the value of “12- A proper value is applicable but not known. This event occurred but the date is unknown (e.g., surgery was performed but date is unknown).”
3	If RX Summ--Surg Prim Site is "99" and Date of Most Definitive Surgical Resection of the Primary Site is blank/empty, then set Date of Most Definitive Surgical Resection of the Primary Site Flag to the value of “10 -No information whatsoever can be inferred from this exceptional value (e.g., unknown if any surgical procedure was performed).”
	Set Reason for No Surgery [#1340]
1	IF RX Date Surg Flag [#1201] = blank/empty THEN set Reason For No Surgery [#1340] = 0.
2	ELSE IF RX Date Surg Flag [#1201] = 10, THEN set Reason For No Surgery [#1340] = 9.
3	ELSE Reason For No Surgery [#1340] = 1.
	Text--DX Proc--Op [#2560] and then RX Text--Surgery [#2610]
1	Append Procedures Section, Narrative Text to NAACCR Text--DX Proc--Op [#2560] and then RX Text--Surgery [#2610], removing carriage returns/line feeds. (Text should run over these two NAACCR fields, in order, if there is more than 1000 characters of text.)
	Special Processing for Melanoma Diagnosis
1	If the cancer diagnosis histology code is the ICD-O-3 Histologic Type codes of 8720 - 8790) and the Problems Section contains one or more non-melanoma invasive or *in situ* skin cancer codes: ICD-9-CM neoplastic skin codes: 173.x, 198.2, 216.x, 232.x, 238.2, 239.2 ICD-10-CM neoplastic skin codes: C44.x, C792. D04.x, C17.x, D22.x, D23.x, D48.5, D49.2 Record the following message to the processing log: "*The procedure assigned to the melanoma diagnosis may have actually been performed on a different non-reportable skin cancer.*"
	Special Processing for Hematopoietic Diagnosis
1	If diagnosis date year is 2018 AND Primary Site = (C420, C421, C423, C424) OR HistTypeICDO3 = (9727,9733,9741-9742,9764-9809,9832,9840-9931,9945-9946,9950-9967,9975-9992), Set RX-Hosp Surgery of Primary Site (#670) = "98" Set RX-Summ Surgery of Primary Site (#1290) = “98”
Z	END of processing for Coded Results Section and Procedures Section
Note 1:	Some vendors will include all procedures past and present, whether performed by the submitting provider or some other provider (including hospital).

Radiation Therapy

Note 1	The Radiation Translation table, RADIATIONTRANSLATION (from VCU's Procedure Translation table), has been developed that lists all of the Radiation Oncology procedures.
Note 2	When a CDA document has more than one cancer diagnosis entry, eMaRC will create a separate abstract for each cancer diagnosis entry. eMaRC will write a WARNING message to the processing log to indicate that multiple abstracts have been created representing the multiple cancer diagnoses due to the fact that linkage and coding of procedures, treatment, and results for each of the multiple cancer diagnoses could possibly be incorrect and may warrant manual review (either within eMaRC Plus or the central registry software).

Note 3	Not all central registries collect RX Hosp--Radiation [#690]. eMaRC will always populate RX Summ--Radiation [#1360] and may also populate RX Hosp--Radiation where it is able.
Note 4	Some vendors will include all procedures (radiation therapy), past and present, whether performed by the submitting provider or some other provider (including hospital).
Note 5	For each procedure code in the CDA Document (**Procedures Sections)**, perform the following steps. Whenever “end of processing for that procedure code” is indicated, return to beginning of this process for next procedure code. When all of the procedure codes have been processed, continue with “Populate RX Date--Radiation Flag”. The Term "procedure" is used within these rules merely to indicate that the code is from the Procedures Section. The actual codes being processed are Radiation Oncology codes.

Note: This is the first step for processing Radiation Therapy in the CDA document. eMaRC determines which set of rules (below) to use based on CDA Diagnosis Date.

Rule #	Mapping/Translation Rules
1	If the CDA Diagnosis Date is 2017 or earlier, use “Radiation Regional Rx Modality [#1570] (2017 and Earlier)”
2	If the CDA Diagnosis Date is 2018+, use “Radiation RX Modality Phase 1 [#1506] (2018+)”

Rad--Regional RX Modality [#1570] (2017 and earlier)

RX Summ--Radiation [#1360]

RX Date Radiation [#1210]

RX Date Radiation Flag [#1211]

Reason for No Radiation [#1430]

RX Text--Radiation (Beam) [#2620]

RX Text--Radiation Other [#2630]

Radiation Therapy for cases diagnosed 2017 and earlier

Rule #	Mapping/Translation Rules
	For each **Procedure** entry in the Procedure Section in the CDA Document, perform the following steps.
1	Determine whether Procedure code is for Radiation Therapy
1.a	If the procedure code **is not in** RADIATIONTRANSLATION table: 1. Do not populate Rad--Regional RX Modality 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other) End of processing for that Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure codes that are for radiation therapy, continue processing with rules for “Final steps for processing Radiation Oncology Section”.
1.b	Using RADIATIONTRANSLATION, If the primary site column value for the Procedure Section/Procedure code **does not** match the translated (ICDO-3) primary site code value **NOTE:** a * in the primary site column is a wildcard that matches all values in for NAACCR primary site: 1. Do not populate Rad--Regional RX Modality

Rule #	Mapping/Translation Rules
	2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). Record the following message in the Processing Log: "*A Radiation Regional Treatment Modality code was submitted that does not correspond to the primary site*." End of processing for Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for "Final steps for processing Radiation Oncology Section".
	CDA Procedure Section/Procedure **Date** or Diagnosis Date [#390] are Null
2	If the CDA Procedure Date is Null or the Diagnosis Date is Null: 1. Do not populate Rad--Regional RX Modality. 2. Append DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data Record the following message in the Processing Log: "*No Radiation Regional Treatment Modality Date was provided or no Diagnosis Date is for the cancer is available.*" End of processing for that Procedure Section/Procedure code. Select Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy codes, continue processing with rules for "Final steps for processing Radiation Oncology Section".
	If Procedure Section/Procedure Date or Diagnosis Date is partial
3	If only the year is provided AND if the Procedure Section/Procedure Date is before the Diagnosis Date, or more than two years after the Diagnosis Date: 1. Do not populate Rad--Regional RX Modality. a. If Procedure Section/Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Radiation Regional Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Procedure Section/Procedure code. Select Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy codes, continue processing with rules for "Final steps for processing Radiation Oncology Section".
3.a	If only month and year are provided, consider the missing date component to be equal to the known date component AND if the Procedure Section/Procedure Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: 1. Do not populate Rad--Regional RX Modality. a. If Procedure Section/Procedure Date Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date.

Rule #	Mapping/Translation Rules
	i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Radiation Regional Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there no more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for "Final steps for processing Radiation Oncology Section".
3.b	If only month and year are provided, consider the missing date component to be equal to the known date component AND If the Procedure Section/Procedure Date is less than or equal to two years after the cancer diagnosis date, **continue with Process Procedure Section/Procedure code,** below.
3.c	If only the year is provided AND If the Procedure Section/Procedure Date Year is less than or equal to two years after the Diagnosis Date**, continue with Process Procedure Section/Procedure code,** below.
4	When Procedure Section/Procedure Date and Diagnosis Date are complete
4.a	If the Procedure Section/Procedure Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: 1. Do not populate Phase I Modality. a. If Procedure Section/Procedure Date is before the diagnosis date, do not append any information to RX Text—Radiation (Beam) and RX Text—Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text—Radiation (Beam) and RX Text—Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Phase I Radiation Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Procedure Section/Procedure code.
4.b	If the Procedure Section/Procedure Date is less than or equal to two years after the cancer diagnosis date, **continue with [E]: Process Procedure Section/Procedure code,** below.
5	Process Procedure Section/Procedure code using the criteria in sequence below (Procedure Section/Procedure code is on or within two years of the Diagnosis Date, Procedure code is in RADIATION TRANSLATION and primary site MATCHES the site submitted in the CDA Document.)
5.a	IF NAACCR (translated) Rad--Regional RX Modality code is blank/empty: 1. Populate Rad--Regional RX Modality code with the translated Procedure Section/Procedure code. 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. End of processing for that Procedure Section/Procedure Code. Select next Procedure Section/Procedure Code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for "Final steps for processing Radiation Oncology Section".

Rule #	Mapping/Translation Rules
5.b	IF NAACCR (translated) Rad--Regional RX Modality code **NOT** blank/empty and is the SAME as the translated Procedure Section/Procedure Code: 1. Do Not Populate Rad--Boost RX Modality code with the translated Procedure Section/Procedure Code 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). End of processing for that Procedure Section/Procedure Code. Select next Procedure Section/Procedure Code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for "Final steps for processing Radiation Oncology Section".
5.c	IF Rad--Regional RX Modality code is **NOT** blank/empty and the Translated Procedure Section/Procedure code is different than the Rad--Regional RX Modality code: 1. Do not replace Rad--Regional RX Modality, 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. Record the following message in the Processing Log: "*Radiation Oncology – More than one radiation regional RX code was submitted.*" End of processing for that Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If no more Procedure Section/Procedure codes continue processing with rules for "Final steps for processing Radiation Oncology Section".
Final Steps	Final steps for processing Radiation Oncology Section: After processing all Radiation **Regional RX Modality** and Radiation **Boost RX Modality** codes in the Procedures Sections:
6	Finalize Radiation **Regional RX Modality** and Radiation **Boost RX Modality** codes
6.a	If Rad--Regional RX Modality is empty/blank, set Rad--Regional RX Modality to be "99"
6.b	If Rad--Boost RX Modality is empty/blank, set Rad--Boost RX Modality to be "99"
7	Finalize RX Summ--Radiation.
7.a	If BOTH **Rad--Regional RX Modality** and **Rad--Boost RX Modality** are 99, Set RX Summ--Radiation to be "9" (Unknown if radiation administered).
7.b	If EITHER **Rad--Regional RX Modality** OR **Rad--Boost RX Modality** is a value between 20 and 98, set RX Summ--Radiation to be "5" (Radiation, NOS)
8	Finalize RX Date Radiation [#1210]
8.a	Populate RX Date Radiation [#1210] with the earliest date of Rad--Regional RX Modality, Rad--Boost RX Modality, or Procedures Radiation. Ignore Radiation date(s) that are for Radiation Treatment codes that were excluded by previous rules: "Radiation date is before diagnosis date"; "treatment code is not in RADIATIONTRANSLATION table"; or "Radiation date is for treatment code that does not match the translated (ICDO-3) primary site code value"
9	Populate RX Date Radiation Flag [#1211]
9.a	If RX Summ--Radiation is (5) and RX Date Radiation is populated, leave RX Date Radiation Flag blank/empty.
9.b	If RX Summ--Radiation is "9" and RX Date Radiation is blank/empty, then set RX Date Radiation Flag to the value of ""10-No information whatsoever can be inferred from this exceptional value (e.g., unknown whether any radiation therapy administered)."
10	Set Reason for No Radiation [#1430]
10.a	IF RX Date Radiation Flag [#1211] = 10 THEN set Reason for No Radiation [#1430] = 9

Rule #	Mapping/Translation Rules
10.b	IF RX Date Radiation Flag [#1211] is not “10” or “11” set Reason for No Radiation [#1430] = 0.
11	Narrative Radiation Oncology Section, Section Text
11.a	Append Narrative Radiation Oncology Section, Section Text to NAACCR RX Text--Radiation (Beam) [#2620] and RX Text--Radiation Other [#2630], consecutively, removing carriage returns/line feeds. (i.e., text should populate across these two NAACCR fields in the specified order if there is more than 1000 characters of text.)
Z	END of processing for radiation codes in Procedures Section

Phase I Radiation Treatment Modality [#1506] (2018+)

RX Date Radiation [#1210]

RX Date Radiation Flag [#1211]

Reason for No Radiation [#1430]

RX Text--Radiation (Beam) [#2620]

RX Text--Radiation Other [#2630]

Radiation Therapy for cases diagnosed 2018+

Rule #	Mapping/Translation Rules
	For each **Procedure** entry in the Procedure Section in the CDA Document, perform the following steps.
1	Determine whether Procedure code is for Radiation Therapy
1.a	If the procedure code **is not in** TRANS_RADIATION2018_CDA table: 3. Do not populate Phase I Radiation Treatment Modality 4. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other) End of processing for that Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure codes that are for radiation therapy, continue processing with rules for “Final steps for processing Radiation Oncology Section”.
1.b	Using TRANS_RADIATION2018_CDA, If the primary site column value for the Procedure Section/Procedure code **does not** match the translated (ICDO-3) primary site code value **NOTE:** a * in the primary site column is a wildcard that matches all values in for NAACCR primary site: 1. Do not populate Phase I Radiation Treatment Modality 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). Record the following message in the Processing Log: “*A Phase I Radiation Treatment Modality code was submitted that does not correspond to the primary site*.” End of processing for Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for “Final steps for processing Radiation Oncology Section”.
2	CDA Procedure Section/Procedure **Date** or Diagnosis Date [#390] are Null

Rule #	Mapping/Translation Rules
	If the CDA Procedure Date is Null or the Diagnosis Date is Null: 3. Do not populate Phase I Radiation Treatment Modality. 4. Append DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data
2.a	Record the following message in the Processing Log: "*No Phase I Radiation Treatment Modality Date was provided, or no Diagnosis Date is for the cancer is available.*" End of processing for that Procedure Section/Procedure code. Select Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy codes, continue processing with rules for "Final steps for processing Radiation Oncology Section".
3	If Procedure Section/Procedure Date or Diagnosis Date is partial
3.a	If only the year is provided AND if the Procedure Section/Procedure Date is before the Diagnosis Date, or more than two years after the Diagnosis Date: 2. Do not populate Phase I Radiation Treatment Modality. a. If Procedure Section/Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Phase I Radiation Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Procedure Section/Procedure code. Select Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy codes, continue processing with rules for "Final steps for processing Radiation Oncology Section".
3.b	If only month and year are provided, consider the missing date component to be equal to the known date component AND if the Procedure Section/Procedure Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: 2. Do not populate Phase I Radiation Treatment Modality. a. If Procedure Section/Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Phase I Radiation Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there no

Rule #	Mapping/Translation Rules
	more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for “Final steps for processing Radiation Oncology Section”.
3.c	If only month and year are provided, consider the missing date component to be equal to the known date component AND If the Procedure Section/Procedure Date is less than or equal to two years after the cancer diagnosis date, continue processing with rules for **“Process Procedure Section/Procedure code”.**
3.d	If only the year is provided AND If the Procedure Section/Procedure Date Year is less than or equal to two years after the Diagnosis Date**,** continue processing with rules for “**Process Procedure Section/Procedure code”**.
4	When Procedure Section/Procedure Date and Diagnosis Date are complete
4.a	If the Procedure Section/Procedure Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: 1. Do not populate Rad-- Phase I Radiation Treatment Modality. a. If Procedure Section/Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, “Phase I Radiation Treatment Modality *is more than two years after the cancer diagnosis date.*” End of processing for that Procedure Section/Procedure code. Select next Radiation Oncology /Procedure code and process starting with rule A.1. If there no more Procedure codes that are radiation therapy, continue processing with rules for “Final steps for processing Radiation Oncology Section”.
4.b	If the Procedure Section/Procedure Date is less than or equal to two years after the cancer diagnosis date, **continue with “Process Procedure Section/Procedure code”,** below.
5	**Process Procedure Section/Procedure code** using the criteria in sequence below (Procedure Section/Procedure code is on or within two years of the Diagnosis Date, Procedure code is in TRANS_RADIATION2018_CDA table and primary site MATCHES the site submitted in the CDA Document.)
5.a	IF NAACCR (translated) Phase I Radiation Treatment Modality code is blank/empty: 1. Populate Phase I Radiation Treatment Modality code with the translated Procedure Section/Procedure code. 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. End of processing for that Procedure Section/Procedure Code. Select next Procedure Section/Procedure Code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for “Final steps for processing Radiation Oncology Section”.
5.b	IF NAACCR (translated) Phase I Radiation Treatment Modality is **NOT** blank/empty and is the SAME as the translated Procedure Section/Procedure Code: 1. Do Not Populate Rad--Boost RX Modality code with the translated Procedure Section/Procedure Code

Rule #	Mapping/Translation Rules
	2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). End of processing for that Procedure Section/Procedure Code. Select next Procedure Section/Procedure Code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for "Final steps for processing Radiation Oncology Section".
5.c	IF NAACCR (translated) Phase I Radiation Treatment Modality is **NOT** blank/empty and the Translated Procedure Section/Procedure code is different than the NAACCR (translated) Phase I Radiation Treatment Modality: 1. Do not replace Rad--Regional RX Modality, 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. Record the following message in the Processing Log: "*Radiation Oncology – More than one Phase I Radiation Treatment Modality code was submitted.*" End of processing for that Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If no more Procedure Section/Procedure codes continue processing with rules for "Final steps for processing Radiation Oncology Section".
Final Steps	Final steps for processing Radiation Oncology Section: After processing all *Phase I Radiation Treatment Modality* codes in the Procedures Sections:
6	If *Phase I Radiation Treatment Modality* is empty/blank, set *Phase I Radiation Treatment Modality* to be "99"
7	Finalize RX Date Radiation [#1210]
7.a	Populate RX Date Radiation [#1210] with the earliest date of NAACCR (translated) Phase I Radiation Treatment Modality, or Procedures Radiation. Ignore Radiation date(s) that are for Radiation Treatment codes that were excluded by previous rules: "Radiation date is before diagnosis date"; "treatment code is not in TRANS_RADIATION2018_CDA table"; or "Radiation date is for treatment code that does not match the translated (ICDO-3) primary site code value"
8	Populate RX Date Radiation Flag [#1211]
8.a	If NAACCR (translated) Phase I Radiation Treatment Modality is not "00", "99", blank/empty, leave RX Date Radiation Flag blank/empty.
8.b	If NAACCR (translated) Phase I Radiation Treatment Modality is "00, "99", blank/empty and RX Date Radiation is blank/empty, then set RX Date Radiation Flag to the value of ""10-No information whatsoever can be inferred from this exceptional value (e.g., unknown whether any radiation therapy administered)."
9	Set Reason for No Radiation [#1430]
9.a	IF RX Date Radiation Flag [#1211] = 10 THEN set Reason for No Radiation [#1430] = 9
9.b	IF RX Date Radiation Flag [#1211] is not "10" or "11" set Reason for No Radiation [#1430] = 0.
10	Narrative Radiation Oncology Section, Section Text
10.a	Append Narrative Radiation Oncology Section, Section Text to NAACCR RX Text--Radiation (Beam) [#2620] and RX Text--Radiation Other [#2630], consecutively, removing carriage returns/line feeds. (i.e., text should populate across these two NAACCR fields in the specified order if there is more than 1000 characters of text.)
Z	END of processing for radiation codes in Procedures Section

RX Hosp--Chemo [#700]

RX Summ--Chemo [#1390]

RX Date Chemo [#1220]

RX Date Chemo Flag [#1221]

RX Text--Chemo [#2640]

RX Hosp--Hormone [#710]

RX Summ--Hormone [#1400]

RX Date Hormone [#1230]

RX Date Hormone Flag [#1231]

RX Text--Hormone [#2650]

RX Hosp--BRM [#720]

RX Summ--BRM [#1410]

RX Date BRM [#1240]

RX Date BRM Flag [#1241]

RX Text--BRM [#2660]

RX Hosp--Other [#730]

RX Summ--Other [#1420]

RX Date Other [#1250]

RX Date Other Flag [#1251]

RX Text--Other [#2670]

Chemotherapy, hormone therapy, and immunotherapy are mapped from two CDA document sections, the Medications Administered and Medications Sections.

There are three rule sets for processing systemic treatment data items:

- Medications Administered Section Rules
- Medications Section Rules
- Finalize Systemic Treatment Rules

The rules for the Medications Administered and Medications Sections are actually the same. The difference is which field(s) are populated by the rule-generated value.

Medications listed in the Medications Administered Section were given in the physician's office during the encounter. These medications can be used to populate RX Hosp--Chemo, RX Hosp--Hormone, RX Hosp--BRM, and RX Hosp--Other as well was RX Summ--Chemo, RX Summ--Hormone, RX Summ--BRM, and RX Summ--Other.

Medications listed in the Medications Section may or may not have been given during the encounter. eMaRC Plus applies rules to determine whether the medication is a part of the current encounter. If the criteria are not met, the medications in this section only populate the RX Summ data items.

The Medications Mapping Table (MedicationsTranlation) includes cancer chemotherapy, hormone therapy, and immunotherapy (BRM) medications. It is based on the SEER*RX database (the definitive source for cancer-directed treatment) and includes the RXNorm concept ID number (RXCUI) when available.

Medications that are not found in the SEER*RX table will not be written to the processing log. Registries may wish to review the Medications Section Tables (Data_Medications and Data_Medications_Admin) periodically to verify that cancer-directed medications aren't missed due to misspellings, new drugs, etc.

For this release, eMaRC will populate RX Hosp--Chemo and RX Summ--Chemo with the general value of "1-Chemotherapy, NOS" instead of determining the number of chemotherapy medications that have been included in the CDA document.

For this release eMaRC determines whether a medication is considered part of the first course of treatment if the medication date is the same as, or within one year after the date of diagnosis.

Medications Administered Section Rules

Rule #	Mapping/Translation Rules
Note 1	For each entry in the Medications Administered Section in the CDA Document, perform the following steps. Whenever "end of processing for that medication" is indicated, return to beginning of this process for next medication. Determine RX--Hosp*, R--Summ*, RX Date* and RX Text*.
Note 2	The CDA document can list the medication in any/all of three items. The software checks whether the medication is in the Medication Translation Table using, in order, the following CDA elements: a. Coded Product Name (numeric RXNorm value) b. Medication Brand Name c. Product Name Description (original text) d. Translation Code
1	Determine whether medication is cancer directed therapy.
1.a	If the medication in the three CDA elements is NOT found in the Medication Translation Table, 1. Do not write a message into the Processing Log. 2. Do not populate any NAACCR abstract treatment fields. End of processing for that medication.
2	Determine if the Medication (Start) Date is within the time frame specified
2.a	Medication (Start) Date or Diagnosis Date missing or null
2.a.1	If the medication in the three Data Elements is in the Medication Translation table but the Medication (Start) Date or Diagnosis Date is missing or null flavor: 1.Record the following message in the Processing Log: *"Medication [Code-DisplayName] was not used because either the Medication Start Date or the Diagnosis Date was unknown or null in CDA Report.*" 2. Do not populate any NAACCR abstract treatment fields. End of processing for that medication.
3	If Medication (Start Date) or Diagnosis Date is partial

Rule #	Mapping/Translation Rules
3.a	If only the year is provided AND if the Medication (Start) Date Year is before the Diagnosis Date, or more than one year after the Diagnosis Date: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was not used because the Medication Start Date is either before or more than one year after the Diagnosis Date."* 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
3.b	If only the year is provided AND If the Medication (Start) Date Year is equal to or one year after the Diagnosis Date: continue processing with rules for "Populate abstract and tables with appropriate data items".
3.c	If month and year are provided, consider the missing date component to be equal to the known date component AND if the Medication (Start Date) is more than one year after the cancer diagnosis date: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was given more than one year after the Diagnosis Date."* . 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
3.d	If month and year are provided, consider the missing date component to be equal to the known date component AND If the Medication (Start) Date is less than or equal to one year after the cancer diagnosis date, processing with rules for "Populate abstract and tables with appropriate data items".
4	Complete Medication (Start) Date and Diagnosis Date are provided
4.a	If the Medication (Start) Date is more than one year after the cancer diagnosis date: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was given more than one year after the Diagnosis Date."* 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
4.b	If the Medication (Start) Date is less than or equal to one year after the cancer diagnosis date, processing with rules for "Populate abstract and tables with appropriate data items".
5	Populate the NAACCR data items that correspond to the Category listed in the Medications Translation Table as indicated
5.a	Chemotherapy
5.a.	If the category assigned to the medication is **"Chemotherapy",** populate: RX Hosp--Chemo [#700] and RX Summ--Chemo [#1390] with the value of "01-Chemotherapy, NOS".
5.a.1	If RX Date Chemo [#1220] is not populated, map the CDA Medication (Start) Date to RX Date Chemo.
5.a.1.a	If RX Date Chemo [#1220] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Chemo, replace RX Date Chemo with the new Medication Start Date.
5.a.1.b	If RX Date Chemo [#1220] is already populated and the new Medication (Start) Date is after than the existing RX Date Chemo, ignore the new Medication (Start) Date.
5.a.2	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Chemo [#2640].

Rule #	Mapping/Translation Rules
5.b	Hormone Therapy
5.b	If the category assigned to the medication is "**Hormone Therapy",** populate: RX Hosp--Hormone [#710] and RX Summ--Hormone [#1400] with the value of "01--Hormone therapy administered as first-course therapy."
5.b.1	If RX Date Hormone [#1230] is not populated, map the CDA Medication (Start) Date to RX Date Hormone.
5.b.1.a	If RX Date Hormone [#1230] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Hormone, replace RX Date Hormone with the new Medication Start Date.
5.b.1.b	If RX Date Hormone [#1230] is already populated and the new Medication (Start) Date is after the existing RX Date Hormone, ignore the new Medication Start Date.
5.b.2	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Hormone [#2650].
5.c	Immunotherapy (BRM)
5.c	If the category assigned to the medication is "**Immunotherapy (BRM)**", populate: RX Hosp--BRM [#720] and RX Summ--BRM [#1410] with the value of "01--Immunotherapy administered as first-course therapy."
5.c.1	If RX Date BRM [#1240] is not populated, use Medication (Start) Date.
5.c.1.a	If RX Date BRM [#1240] is already populated and the new Medication (Start) Date is earlier than the existing RX Date BRM, replace RX Date BRM with the new Medication (Start) Date.
5.c.1.b	If RX Date BRM [#1240] is already populated and the new Medication (Start) Date is after than the existing RX Date BRM, ignore the new Medication (Start) Date.
5.c.2	Append date, code, display name, translation code and display name and original text of the medication into RX Text--BRM [#2660].
5.d	Other Therapy
5.d	If the category assigned to the medication is "**Other therapy**", populate: RX Hosp--Other [#730] and RX Summ--Other [#1420] with the value of "1--Cancer treatment that cannot be assigned to specified treatment data items."
5.d.1	If RX Date Other [#1250] is not populated, use Medication (Start) Date.
5.d.1.a	If RX Date Other [#1250] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Other, replace RX Date Other with the new Medication (Start) Date.
5.d.1.b	If RX Date Other [#1250] is already populated and the new Medication Start Date is after than the existing RX Date Other, ignore the new Medication Start Date.
5.d.2	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Other [#2670].
Z.	END of processing for Medications Administered Section. Continue with the rules for the Medications Section.

Medications Section Rules

Rule #	Mapping/Translation Rules
Note 1	For each entry in the Medications Section in the CDA Document, perform the following steps. Whenever "end of processing for that medication" is indicated, return to beginning of this process for next medication. Determine R--Summ*, RX--Date* and RX--Text*.
Note 2	The CDA document can list the medication in any/all of three items. The software checks whether the medication is in the Medication Translation Table (MedicationTranslation) using, in order, the following CDA elements: a. Coded Product Name (numeric RXNorm value) b. Medication Brand Name c. Product Name Description (original text) d. Translation Code
1	Determine whether medication is cancer directed therapy.
1.a	If the medication in the three CDA elements is not found in the table MedicationTranslation: 1. Do not write a message into the Processing Log. 2. Do not populate any NAACCR abstract treatment fields. End of processing for that medication.
2	The software checks to determine if the Medication (Start) Date is within the time frame specified
2.a	Medication (Start) Date or Diagnosis Date missing or null
2.a.1	If the medication in the three Data Elements is in MedicationTranslation but the Medication (Start) Date or Diagnosis Date is missing or null flavor: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was not used because either the Medication Start Date or the Diagnosis Date was unknown or null in CDA Report.* 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
3	If Medication (Start) Date or Diagnosis Date is partial
3.a	If only the year is provided AND if the Medication (Start) Date Year is before the Diagnosis Date, or more than one year after the Diagnosis Date: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was not used because the Medication Start Date is either before or more than one year after the Diagnosis Date."* 1. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
3.b	If only the year is provided AND If the Medication (Start) Date Year is equal to or one year after the Diagnosis Date: processing with rules for "Populate abstract and tables with appropriate data items".
3.c	If month and year are provided, consider the missing date component to be equal to the known date component AND if the Medication (Start) Date is more than one year after the cancer diagnosis date: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was given more than one year after the Diagnosis Date."* 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.

Rule #	Mapping/Translation Rules
3.d	If month and year are provided, consider the missing date component to be equal to the known date component AND If the Medication (Start) Date is less than one year after the cancer diagnosis date, processing with rules for “Populate abstract and tables with appropriate data items”.
4	Complete Medication (Start) Date and Diagnosis Date are provided
4.a	If the Medication (Start) Date is more than one year after the cancer diagnosis date: 1. Record the following message in the Processing Log: *“Medication [Code-DisplayName] was given more than one year after the Diagnosis Date.”* 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
4.b	If the Medication (Start) Date is less than or equal to one year after the cancer diagnosis date, processing with rules for “Populate abstract and tables with appropriate data items”.
5	Populate the NAACCR data items that correspond to the Category listed in MedicationTranslation as indicated
5.a	Chemotherapy
5.a	If the category assigned to the medication is **“Chemotherapy”,** populate: RX Summ--Chemo [#1390] with the value of “01-Chemotherapy, NOS".
5.a.1	If RX Date Chemo [#1220] is not populated, map the CDA Medication (Start) Date to RX Date Chemo.
5.a.1.a	If RX Date Chemo [#1220] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Chemo, replace RX Date Chemo with the new Medication Start Date.
5.a.1.b	If RX Date Chemo [#1220] is already populated and the new Medication (Start) Date is after than the existing RX Date Chemo, ignore the new Medication Start Date.
5.a.2	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Chemo [#2640].
5.b	Hormone Therapy
5.b	If the category assigned to the medication is "**Hormone Therapy"** populate: RX Summ--Hormone [#1400] with the value of “01--Hormone therapy administered as first-course therapy.”
5.b.1	If RX Date Hormone [#1230] is not populated, map the CDA Medication (Start) Date to RX Date Hormone.
5.b.1.a	If RX Date Hormone [#1230] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Hormone, replace RX Date Hormone with the new Medication (Start) Date.
5.b.1.b	If RX Date Hormone [#1230] is already populated and the new Medication (Start) Date is after than the existing RX Date Hormone, ignore the new Medication (Start) Date.
5.b.2	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Hormone [#2650].
5.c	Immunotherapy (BRM)
5.c	If the category assigned to the medication is “**Immunotherapy (BRM)**”, populate: RX Summ--BRM [#1410] with the value of “01--Immunotherapy administered as first-course therapy.”
5.c.1	If RX Date BRM [#1240] is not populated, use Medication (Start) Date.

Rule #	Mapping/Translation Rules
5.c.1.a	If RX Date BRM [#1240] is already populated and the new Medication (Start) Date is earlier than the existing RX Date BRM, replace RX Date BRM with the new Medication (Start) Date.
5.c.1.b	If RX Date BRM [#1240] is already populated and the new Medication (Start) Date is after than the existing RX Date BRM, ignore the new Medication (Start) Date.
5.c.2	Append date, code, display name, translation code and display name and original text of the medication into RX Text--BRM.
5.d	Other Therapy
5.d	If the category assigned to the medication is “Other therapy”, populate: RX Summ--Other [#1420] with the value of “1--Cancer treatment that cannot be assigned to specified treatment data items.”
5.d.1	If RX Date Other is not populated, use Medication (Start) Date.
5.d.1.a	If RX Date Other [#1250] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Other, replace RX Date Other with the new Medication (Start) Date.
5.d.1.b	If RX Date Other [#1250] is already populated and the new Medication (Start) Date is after than the existing RX Date Other, ignore the new Medication (Start) Date.
f.d.2	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Other.
Z.	END of processing for Medications Section. Continue with the rules for Finalize Systemic Treatment Rules.

Finalize Systemic (Chemotherapy/Medication) Treatment Rules

Rule #	Mapping/Translation Rules
1	Populate RX--Hosp* and RX--Summ* data items that are still blank/empty.
1.a	If a NAACCR Treatment data item is blank, set data items as indicated below: **Data items to set "00-Therapy not given":** RX Hosp--Chemo [#700] RX Summ--Chemo [#1390] RX Hosp--Hormone Therapy [#710] RX Summ--Hormone Therapy [#1400] RX Hosp-- BRM [#720] RX Summ--(BRM [#1410] **Data items to set "0-None":** RX Hosp--Other [#730] RX Summ--Other [#1420]
2	Populate Date Flags (RX Date Chemo Flag [#1221], RX Date Hormone Flag [#1231] and RX Date BRM Flag [#1241]
2.a	Populate RX Date Chemo Flag [#1221]
2.a.1	If RX Summ--Chemo is (01, 02, 03) and RX Date Chemo is populated, leave RX Date Chemo Flag blank/empty.
2.a.2	If RX Summ--Chemo is “00” and RX Date Chemo is blank/empty, then set RX Date Chemo Flag to the value of “11- No proper value is applicable in this context (e.g., no chemotherapy administered; autopsy only case).”
2.b	Populate RX Date Hormone Flag [#1231]

Rule #	Mapping/Translation Rules
2.b.1	If RX Summ--Hormone is “01”and RX Date Hormone is populated, leave RX Date Hormone Flag blank/empty.
2.b.2	If RX Summ--Hormone “00” and RX Date Hormone is blank/empty, then set RX Date Hormone Flag to the value of “11- No proper value is applicable in this context (e.g., no hormone therapy administered; autopsy only cases).”
3.b	Populate RX Date BRM Flag [#1241]
3.b.1	If RX Summ--BRM is “01”and RX Date BRM is populated, leave RX Date BRM Flag blank.
3.b.2	If RX Summ--BRM “00” and RX Date BRM is blank/empty, then set RX Date BRM Flag to the value of “11- No proper value is applicable in this context (e.g., no immunotherapy administered; autopsy only case).”
4.b	Populate RX Date Other Flag [#1251]
4.b.1	If RX Summ--Other is “1”and RX Date Other is populated, leave RX Date Other Flag blank/empty.
4.b.2	If RX Summ--Other “0” and RX Date Other is blank/empty, then set RX Date Other Flag to the value of “11- No proper value is applicable in this context (e.g., no other treatment administered; autopsy only case).”
Z	END of processing for Medications and Medications Administered Sections.

RX Summ--Surg/Rad Seq [#1380]

RX Summ--Systemic/Sur Seq [#1639]

Surgery/Radiation Sequence Rules

Rule #	Mapping/Translation Rules
1	If (RX Summ--Radiation [#1360] = “0” or “9”) or (Phase I Radiation Treatment Modality = “00” or “99”) or (RX Summ--Surg Prim Site [#1290] = “00” or “99”), Set RX Summ--Surg/Rad Seq [#1380] = “0”.
1	Either Surgery not performed, or Radiation not administered
1.a	If RX Date Surgery Flag [#1201] = 10, set RX Summ--Surg/Rad Seq = “0”.
1.b	If RX Date Radiation Flag [#1211] = 10, set RX RX Summ--Surg/Rad Seq = “0”.
2	Sequence unknown, but both surgery and radiation were given
3	Both surgery and radiation therapy given, and radiation therapy is intraoperative
3.a	If RX Date Radiation [#1210] = RX Date Surgery [#1200], Set RX Summ--Surg/Rad Seq = “5”.
4	Both surgery and radiation therapy given and radiation therapy before surgery
4.a	If RX Date Radiation [#1210] IS EARLIER THAN RX Date Surgery [#1200], Set RX Summ--Surg/Rad Seq = “2”.
5	Both surgery and radiation therapy given and radiation therapy after surgery
5.a	If RX Date Radiation [#1210] IS LATER THAN RX Date Surgery [#1200], Set RX Summ--Surg/Rad Seq = “3”.
5.b	Else set RX Summ--Surg/Rad Seq = “0”.

Systemic/Surgery Treatment Sequence Rules

Rule #	Mapping/Translation Rules
1	No surgery or systemic therapy, RX Summ--Systemic Sur Seq = “0”
1.a	If RX Date Surgery Flag [#1201] =10, set RX Summ--Systemic/Sur Seq = “0”.
1.b	If RX Date BRM Flag [#1241] AND (RX Date Chemo Flag [#1221] AND RX Date Hormone Flag [#1231] = 11), set RX Summ--Systemic/Sur Seq = “0”.
2	Both surgery and systemic therapy given and intraoperative systemic therapy with other therapy administered before and/or after surgery, RX Summ--Systemic/Sur Seq = “6”.
2.a	If ANY of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230])= RX Date Surgery [#1200] AND (any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) ARE EARLIER THAN RX Date Surgery [#1200] OR any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) ARE LATER THAN RX Date Surgery [#1200]), set RX Summ--Systemic/Sur Seq = “6”.
3	Both surgery and systemic therapy given and systemic therapy both before and after surgery, RX Summ--Systemic Sur Seq = 4
3.a	IF (any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) ARE EARLIER THAN RX Date Surgery [#1200] AND any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) ARE LATER THAN RX Date Surgery [#1200]), set RX Summ--Systemic/Sur Seq = 4.
4	Both surgery and systemic therapy given, and systemic therapy is intraoperative, RX Summ--Systemic Sur Seq = 5
4.a	IF any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) = RX Date Surgery [#1200], set RX Summ--Systemic/Sur Seq = “5”.
5	Both surgery and systemic therapy given and systemic therapy before surgery, RX Summ--Systemic Sur Seq = 2
5.a	IF any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) IS EARLIER THAN RX Date Surgery [#1200], set RX Summ--Systemic/Sur Seq = 2.
6	Both surgery and systemic therapy given and systemic therapy after surgery, RX Summ--Systemic/Sur Seq = “3”
6.a	IF any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) IS LATER THAN RX Date Surgery [#1200], set RX Summ--Systemic/Sur Seq = “3”.
7	Else set RX Summ--Systemic/Sur Seq = “0”.

Date Initial RX SEER [#1260]

Date Initial RX SEER Flag [#1261]

Date 1st CRS RX CoC [#1270]

Date 1st CRS RX CoC Flag [#1271]

RX Summ--Treatment Status [#1285]

Date of initial therapy will be determined after all treatment mapping and translation has been performed (Coded Results Section, Procedures Section, Medications Administered Section, Medications Section).

Rule #	Mapping/Translation Rules
	Date Initial RX SEER [#1260]
1	Set Date Initial RX SEER to be the earliest known date selected from • 1200 RX Date Surgery • 1210 RX Date Radiation • 1220 RX Date Chemo • 1230 RX Date Hormone • 1240 RX Date BRM • 1250 RX Date Other
1.a	If all treatment date fields are blank/empty, do not populate Date Initial RX SEER.
	Date Initial RX SEER Flag [#1261]
2	If Date Initial RX SEER has a date (complete or date part), do not populate Date Initial RX SEER Flag.
2.a	If Date Initial RX SEER does not have a date, set Date Initial RX SEER Flag to the value of "11- No proper value is applicable in this context (e.g., therapy was not administered)."
	Date 1st Crs RX CoC [#1270]
3	Set Date 1st Crs RX CoC to be the earliest known date selected from • 1200 RX Date Surgery • 1210 RX Date Radiation • 1220 RX Date Chemo • 1230 RX Date Hormone • 1240 RX Date BRM • 1250 RX Date Other
3.a	If all treatment date fields are blank/empty, do not populate Date 1st Crs RX CoC.
	Date 1st Crs RX CoC Flag [#1271]
4	If Date 1st Crs RX CoC has a date (complete or date part), do not populate Date 1st Crs RX CoC Flag.
4.a	If Date 1st Crs RX CoC does not have a date, set Date 1st Crs RX CoC Flag to the value of "11- No proper value is applicable in this context (e.g., therapy was not administered).
	RX Summ--Treatment Status [#1285]
5	If RX Summ--Surgery of Primary Site [#1290] is (between "01" and "90") OR RX Summ--Radiation [#1360] is ("1", "2", "3", "4", "5") OR RX Summ--Chemo [#1390] is ("01", "02", "03") OR RX Summ--Hormone [#1400] is "01" OR RX Summ--BRM [#1410] is "01" OR RX Summ--Other [#1420] is ("1", "2", "3", "6"), OR Phase I Radiation Treatment Modalit is NOT ("00" or "99") set RX Summ--Treatment Status = "1".

Rule #	Mapping/Translation Rules
6	If RX Summ--Surgery of Primary Site [#1290] is "99" AND RX Summ--Radiation [#1360] is "99" AND RX Summ--Chemo is "00" AND RX Summ--Hormone is "00"AND RX Summ--Immunotherapy(BRM) is "00"AND RX Summ--Other is "0" set RX Summ--Treatment Status = "9".
7	Else do not populate RX Summ--Treatment Status.

Comorbid/Complication 1 [#3110]

Comorbid/Complication 2 [#3120]

Comorbid/Complication 3 [#3130]

Comorbid/Complication 4 [#3140]

Comorbid/Complication 5 [#3150]

Comorbid/Complication 6 [#3160]

Comorbid/Complication 7 [#3161]

Comorbid/Complication 8 [#3162]

Comorbid/Complication 9 [#3163]

Comorbid/Complication 10 [#3164]

Secondary Diagnosis 1 [#3780]

Secondary Diagnosis 2 [#3782]

Secondary Diagnosis 3 [#3784]

Secondary Diagnosis 4 [#3786]

Secondary Diagnosis 5 [#3788]

Secondary Diagnosis 6 [#3790]

Secondary Diagnosis 7 [#3792]

Secondary Diagnosis 8 [#3794]

Secondary Diagnosis 9 [#3796]

Secondary Diagnosis 10 [#3798]

Text--DX Proc--PE [#2520]

Rule #	Mapping/Translation Rules
1	If there are no active problems, set: Comorbid/Complication 1 = 00000 [#3110] Comorbid/Complication 2-10 = spaces [#3120 - #3164] Secondary Diagnosis 1 = 0000000 [#3780] Secondary Diagnosis 2-10 = spaces [#3782 - #3798]
2	ICD-9-CM mapping to Comorbidities and Complications

Rule #	Mapping/Translation Rules
2.a	Map ICD-9-CM CDA Problem Codes to Comorbidity 1 – Comorbidity 10 data items with only the codes that are listed in NAACCR Volume II, Version 13. ICD-9-CM Codes: 00100-13980, 24000-99990, E8700-E8799, E9300-E9499, V0720-V0739, V1000-V1590, V2220- V2310, V2540, V4400-V4589, and V5041-V5049. For codes that are ignored, write the following to the Processing Log Message: "*Code <code+displayname> not mapped…code not included in the NAACCR list of acceptable Comorbid/Compl or Secondary Diagnoses.*"
2.b	Map the first 10 codes in the order they appear in the CDA document.
2.c	If any of the CDA problem codes after the first 10 are "Personal history of cancer" codes, which are the range of codes from V10.00-V10.91 (Personal history of malignant neoplasm), replace the mapped NAACCR comorbidity codes with the "Personal history of cancer" codes as needed in descending order (i.e., start with Comorbidity 10, item and replace it with the "Personal history of cancer" code. If two "Personal history of cancer" codes, store them in Comorbidity 10 and 9).
2.d	Write to processing log when more than 10 Active Problem codes were submitted and not all were mapped. Processing Log Message: **"***Code <code+displayname> not mapped…more than 10 Active problems submitted.*"
3	ICD-10-CM mapping to Secondary Diagnosis
3.a	Map ICD-10-CM CDA Problem Codes to NAACCR Secondary Diagnoses 1-10 with only the codes that are listed in NAACCR Volume II, Version 13. ICD-10-CM Codes: A00.0 - B99.9, E00.0 - E89.89, G00.0 - P96.9, R00.0 - S99.929, T36.0 - T50.996, Y62.0 - Y84.9, Z14.0 - Z22.9, Z68.1 - Z68.54, Z80.0 - Z80.9, Z85.0 - Z86.03, Z86.1 - Z99.89.
3.b	Map the first 10 codes in the order they appear in the CDA document.
3.c	If any of CDA problem codes after the first 10 are "Personal history of cancer" codes, which are the range of codes from Z85.00-Z85.9, replace the mapped NAACCR Secondary Diagnosis codes with the "Personal history of cancer" codes as needed in descending order (i.e., start with Secondary Diagnosis 10 and replace it with the "Personal history of cancer" code). Example: If two "Personal history of cancer" codes, store them in Secondary Diagnosis 10 and 9.
3.d	Write to processing log when more than 10 Active Problem codes were submitted and not all were mapped. Processing Log Message: "*Code <code+displayname> not mapped…more than 10 Active problems submitted.*"
4	SNOMED CT mapping to Secondary Diagnosis
4.a	Map SNOMED CT Problem Codes to NAACCR Secondary Diagnoses 1-10 with only the codes that are listed in NAACCR Volume II, Version 16: Translated ICD-10-CM Codes: A00.0 - B99.9, E00.0 - E89.89, G00.0 - P96.9, R00.0 - S99.929, T36.0 - T50.996, Y62.0 - Y84.9, Z14.0 - Z22.9, Z68.1 - Z68.54, Z80.0 - Z80.9, Z85.0 - Z86.03, Z86.1 - Z99.89.
4.b	Map the first 10 codes in the order they appear in the CDA document.
4.b.1	If any of CDA problem codes after the first 10 are "Personal history of cancer" codes, which are the range of codes from Z85.00-Z85.9, replace the mapped NAACCR Secondary Diagnosis codes with the "Personal history of cancer" codes as needed in descending order (i.e., start with Secondary Diagnosis 10 and replace it with the "Personal history of cancer" code). Example: If two "Personal history of cancer" codes, store them in Secondary Diagnosis 10 and 9.

Rule #	Mapping/Translation Rules
4.b.1.a	Write to processing log when more than 10 Active Problem codes were submitted and not all were mapped. Processing Log Message: **"***Code <code+displayname> not mapped…more than 10 Active problems submitted.*"
4.b.1.b	Write to processing log when a CDA problem code is not included in TRANS_SNOMED_ICD10_PROB_CDA. Processing Log Message: "*Code <code+displayName> not mapped…<code> not included in the NAACCR list of acceptable Comorbid/Compl or Secondary Diagnoses."*
5	Text--DX Proc--PE [#2520].
5.a	Append Active Problems Section narrative to Text--DX Proc--PE.

Date of 1st Contact [#580]

Date of Last Contact [#1750]

Dates of contact are mapped from one of three CDA Header elements:

- **Encompassing Encounter**: This optional class represents the setting of the clinical encounter during which the documented act(s) or ServiceEvent occurred.
- **ServiceEvent/:** This class represents the main Act, such as a colonoscopy or an appendectomy, being documented.
- **Document effectiveTime/:** Signifies the document creation time, when the document first came into being. Where the CDA document is a transform from an original document in some other format, the effectiveTime is the time the original document was created.

Rule #	Mapping/Translation Rules
	Date of 1st Contact [#580]
1	Select and map the earliest effectiveTime from ALL of the following date elements, regardless of whether it is effectiveTime/low, effectiveTime/high, or has no high/low specified: a. Service Event b. Encompassing Encounter c. Diagnosis Date
	Date of Last Contact [#1750]
2	Populate Date of Last Contact with sdtc:deceasedTime/@value
2.a	If there is no value for deceased time, then: Select and map the most recent effectiveTime from ALL of the following date elements, regardless of whether it is effectiveTime/low, effectiveTime/high, or has no high/low specified: a. Service Event b. Encompassing Encounter c. Diagnosis Date d. Procedure Date e. Medication Administered Start or End Date f. Medication Start or End Date

Reporting Facility [#540]

NPI--Reporting Facility [#545]

Text--Place of Diagnosis [#2690]

The CDA Physician report includes NPI numbers for facilities, and eMaRC Plus populates the corresponding NAACCR data items based on the rules below.

Registries **MUST** build a translation table using the Manage Facility feature (see User Guide) from the NPI Codes to their state-specific codes to populate Reporting Facility [#540].

Registries **MUST** provide their own state-assigned facility numbers to the EHR vendor and/or facilities submitting reports in order to have their FIN populate Reporting Facility [#540].

Rule #	Mapping/Translation Rules
1	Compare custodian/assignedCustodian/representedCustodianOrganization/id/@root with the OID stored in the eMaRC configuration
1.a	If custodian/assignedCustodian/representedCustodianOrganization/id/@root does not match the OID stored in the eMaRC configuration, go step 2 below.
1.b	If custodian/assignedCustodian/representedCustodianOrganization/id/@root matches the OID stored in the eMaRC configuration, then map CDA custodian/assignedCustodian/representedCustodianOrganization/id/@extension to NAACCR Reporting Facility when the id/@root is in the StateCancerRegistry_OID table. **[Note: this mapping requires the State Cancer Registry to provide their own state-assigned Facility ID numbers to the EHR vendor and/or facility submitting the data.]**
2	If the NAACCR Reporting Facility is empty/blank, use the Facility Table to map the Reporting Facility from the custodian/assignedCustodian/representedCustodianOrganization/id NPI number (@root="2.16.840.1.113883.4.6").
3	If the NAACCR Reporting Facility is empty/blank, use the Facility Table to map the Reporting Facility from the custodian/assignedCustodian/representedCustodianOrganization/name.
4	Map CDA Custodian/Represented Custodian Organization NPI to NAACCR NPI--Reporting Facility
5	Append Reporting organization (Custodian) Name with tag "*Reporting Facility:*" to Text--Place of Diagnosis.

EHR Vendor Name, Software and Version [NAACCR Item #2508]

EHR Reporting (columns 5115-5194)

Rule #	Mapping/Translation Rules
1	Map author/assignedAuthor/assignedAuthoringDevice/manufacturerModelName AND author/assignedAuthor/assignedAuthoringDevice/softwareName to EHR Reporting [#2508] columns 5115-5194
1.a	Separate mapped values with a ";"

NPI--Physician--Managing [#2465]

NPI--Physician--Follow Up [#2475]

NPI--Physician 3 [#2495]

NPI--Physician 4 [#2505]

Text--Remarks [#2680]

The CDA Physician report includes NPI numbers for physicians; eMaRC Plus populates the corresponding NAACCR NPI data items based on the rules below.

Registries may choose to build a translation table from the NPI Codes to their state-specific codes to populate the data items of Physician—Managing [#2460], Physician—Follow Up [#2470], Physician 3 [#2490] and Physician 4 [#2500].

Note 1	The CDA document contains three data items that can be used to populate physician data items: • CDA Author: Represents the humans and/or machines that authored the document. • ServiceEvent/Performer: Represents clinicians who actually and principally carry out the ServiceEvent. • EncompassingEncounter/responsibleParty: Has primary legal responsibility for the encounter.

Rule #	Mapping/Translation Rules
1	Populate Managing/Following physician using CDA AUTHOR
1.a	If author/assignedAuthor/@root= "2.16.840.1.113883.4.6" (NPI), Map CDA author/assignedAuthor/@extension to NAACCR NPI--Physician--Managing [#2465] **AND** NAACCR NPI--Physician--Follow Up [#2475].
1.b	Append corresponding CDA Physician Name (author/assignedAuthor/assignedPerson/name) with tag "*Managing/FUP:*" to NAACCR Text--Remarks.
1.c	If Author does not have an NPI number, append CDA Physician Name (author/assignedAuthor/assignedPerson/name) with tag "*Managing/FUP*:" to NAACCR Text--Remarks. Continue processing with rules for "Populate Managing/Following physician using ServiceEvent when AUTHOR is not an NPI".
2	Populate Managing/Following physician using ServiceEvent when AUTHOR is not an NPI
2.a	ELSE: If serviceEvent/performer/assignedEntity/id/@root = "2.16.840.1.113883.4.6" (NPI), Set NAACCR NPI--Physician--Managing [#2465] AND NAACCR NPI--Physician--Follow Up [#2475] to be CDA serviceEvent/performer/assignedEntity/id/@extension.
2.b	Append corresponding CDA Physician Name (serviceEvent/performer/assignedEntity/assignedPerson/name) with tag "*Managing/FUP*:" to NAACCR Text--Remarks.
2.c	If ServiceEvent does not have an NPI number, append CDA Physician Name (serviceEvent/performer/assignedEntity/assignedPerson/name) with tag "*Managing/FUP*:" to NAACCR Text--Remarks. Continue processing with rules for "Populate Managing/Following physician using EncompassingEncounter when AUTHOR and ServiceEvent are not NPI".
3	Populate Managing/Following physician using EncompassingEncounter when AUTHOR and ServiceEvent are not NPI.
3.a	ELSE: if encompassingEncounter/responsibleParty/assignedEntity/id/@extension when id/@root = "2.16.840.1.113883.4.6" (NPI), Set NAACCR NPI--Physician--Managing [#2465] AND NAACCR NPI--Physician--Follow Up [#2475] to be encompassingEncounter/responsibleParty/assignedEntity/id@extension.
3.b	Append corresponding CDA Physician Name (encompassingEncounter/responsibleParty/assignedEntity/assignedPerson/name with tag "*Managing/FUP*:" to NAACCR Text--Remarks.

Rule #	Mapping/Translation Rules
3.c	If EncompassingEncounter does not have an NPI number, append CDA Physician Name (encompassingEncounter/responsibleParty/assignedEntity/assignedPerson/name with tag "*Managing/FUP*:" to NAACCR Text--Remarks. Continue processing with rules for "Populate Physician 3". with Step 4, below.
4	Populate Physician 3
4.a	Excluding the NPI used in Author and null, Perform steps 2a and 2b, 3a and 3b, respectively to populate NPI--Physician 3 [#2495].
4.b	Append corresponding Physician Name with tag "*Physician 3:*" to Text--Remarks.
5	Populate Physician 4
5.a	Excluding the NPI used in Author, ServiceEvent/performer and null, Perform step 3a and 3b to populate NPI--Physician 4 [#2505].
5.b	Append corresponding Physician Name to with tag "*Physician 4:*" Text--Remarks.

NPI--Inst Referred From [#2415]

The CDA Physician report includes NPI numbers for facilities; eMaRC Plus populates the corresponding NAACCR NPI data items based on the rules below.

Registries may choose to build a translation table from the NPI Codes to their state-specific codes to populate Institution Referred From [#2410].

Rule #	Mapping/Translation Rules
1.a	If encounterParticipant@typeCode is NOT 'REF', ignore the entry. End of processing for Referred From.
1.b	If encounterParticipant@typeCode = 'REF' and the CDA Encompassing Encounter Represented Organization is NOT an NPI, ignore the entry. End of processing for Referred From.
1.c	If encounterParticipant@typeCode = 'REF', map CDA Encompassing Encounter Represented Organization NPI to NAACCR NPI--Inst Referred From [#2415].
1.d	Append corresponding Organization Name with tag "*Provider Referred From:*" to Text Remarks.
Z.	End of Processing for Inst Referred From.

NPI--Inst Referred To [#2425]

Text--Remarks [#2680]

The CDA Physician report includes NPI numbers for facilities; eMaRC Plus populates the corresponding NAACCR NPI data items based on the rules below.

Registries may choose to build a translation table from the NPI Codes to their state-specific codes to populate Institution Referred To [#2420].

Rule #	Mapping/Translation Rules
	NPI--Inst Referred To [#2425]

Rule #	Mapping/Translation Rules
1	If Care Plan section/Encounter Entry @moodCode is NOT ="APT" or "ARQ", ignore all information in the Care Plan Section/Encounter entry.
2	NPI--Inst Referred To [#2425] when Represented Organization is Present
2.a	If @moodCode="APT" or "ARQ", map CDA Care Plan section/Encounter Represented Organization NPI to NPI--Inst Referred To.
2.b	Append corresponding Organization with tag "*Inst Referred to:*" Name to Text--Remarks.
3	No Represented Organization Use Assigned Entity (physician NPI number)
3.a	If no Care Plan Section/Encounter **Represented Organization** NPI is present, map Care Plan section/Encounter **Assigned Entity** NP to NPI--Inst Referred To.
4	Text--Remarks [#2680]
4.a	Append Care Plan section/Encounter **Assigned Entity NPI** with tag "*NPI Provider Referred To:*" and corresponding **Assigned Person Physician Name** with tag "*Institution Referred To:*" to Text--Remarks.

Date Case Report Exported [#2110]

Rule #	Mapping/Translation Rules
1	Set Date Case Exported to be document effective Time.

MU VERSION [#2508]

EHR Reporting (columns 5105 - 6104)

Rule #	Mapping/Translation Rules
1	If templateId = /ClinicalDocument/templateId/@root='1.3.6.1.4.1.19376.1.7.3.1.1.14.1':
1.a	Set EHR Reporting columns 5105-5114 = "MUIG2"
1.b	Set value of MU_Version field in Data_Provider table to "MUIG2"
2	If templateId = /ClinicalDocument/templateId/@root='2.16.840.1.113883.10.20.22.1.1':
2.a	Set EHR Reporting columns 5105-5114 = "MUIG3"
2.b	Set value of MU_Version field in Data_Provider table to "MUIG3"
3	If neither templateID is present, eMaRC will not allow the document to be imported

NAACCR Text Data Items: (See above for specific rules.)

NAACCR Item #	NAACCR Item Name	Mapping
2520	Text--DX Proc--PE	1. Coded Social History Section Text a. Includes Occupation, Industry and smoking history 2. Active Problem Section Text
2530	Text--DX Proc--X-ray/Scan	1. Coded Results Section, Section Text 2. Coded Results Section, Procedure Entry, Procedure Description Text 3. Coded Results, Observation Entry, Code@code with tag "*code:*", code@codeSystemName with tag "*code syst name:*" and code@displayName with tag "*code display name:"*
2540	Text--DX Proc--Scopes	
2550	Text--DX Proc--Lab Tests	

NAACCR Item #	NAACCR Item Name	Mapping
		4. Coded Results, Observation Entry, Text with tag "*test name text:*" Note: Text will populate across these 3 data items in the specified order
2560	Text--DX Proc--Op	1. Procedures Section, Section Text 2. Procedure Activity Entry, Code, DisplayName and Original Text. Needs to include tags to distinguish display name from original text) Note: Text will populate across these 2 data items in the specified order
2610	RX Text--Surgery	
2570	Text--DX Proc--Path	1. Cancer Dx Section Text 2. Cancer Diagnosis Entry, Diagnostic Confirmation Original Text, with tag "*dx conf orig text:*" 3. Cancer Diagnosis Entry, Diagnostic Confirmation Display Name, with tag "*dx conf disp name:*"
2580	Text--Primary Site Title	1. Cancer Diagnosis Entry, Primary Site (targetSiteCode) Display Name 2. Cancer Diagnosis Entry, Laterality Original Text with tag "*lat orig text:*" 3. Cancer Diagnosis Entry, Laterality Display Name with tag "*lat disp name:*"
2590	Text--Histology Title	1. Cancer Diagnosis Entry, Histologic Type Original Text with tag "*hist orig text:*" 2. Cancer Diagnosis Entry, Histologic Type Display Name with tag "*hist disp name:*" 3. Cancer Diagnosis Entry, Behavior Original Text with tag "*behav orig text:*" 4. Cancer Diagnosis Entry, Behavior Display Name with tag "*behav disp name:*"
2600	Text--Staging	1. Cancer Diagnosis Entry, TNM Clinical Stage Group Original Text with tag "*Stage Grp orig text:*" 2. Cancer Diagnosis Entry, TNM Clinical Stage Group Display Name with tag "*Stage Grp disp name:*" 3. Cancer Diagnosis Entry, TNM Clinical Stage Descriptor Original Text with tag "*Stage descript orig text:*" 4. Cancer Diagnosis Entry, TNM Clinical Stage Descriptor Display Name with tag "*Stage descript disp name:*" 5. Cancer Diagnosis Entry, TNM Edition Number Original Text with tag "*TNM Ed orig text:*" 6. Cancer Diagnosis Entry, TNM Edition Number Display Name with tag "*TNM Ed disp name:*" 7. Cancer Diagnosis Entry, TNM Clinical T, N, and M Original Text with tag "*T orig text:*", "*N orig text:*", or "*M orig text:*" 8. Cancer Diagnosis Entry, TNM Clinical T, N, and M Display Name with tag "*T disp name:*", "*N disp name:*", or "*M disp name:*"
2620	RX Text--Radiation (Beam)	Narrative Radiation Oncology Section, Section Text Note: Text will populate across these 2 data items in the specified order
2630	RX Text--Radiation Other	
2640	RX Text--Chemo	1. Medication/Medication Administered Entry, effectiveDate low with tag "Start date:" 2. Medication/Medication Administered Entry, Consumable, Manufactured Material with tag "Drugname:"

NAACCR Item #	NAACCR Item Name	Mapping
2650	RX Text--Hormone	1. Medication/Medication Administered Entry, effectiveDate low with tag “Start date:” 2. Medication/Medication Administered Entry, Consumable, Manufactured Material with tag “Drugname:”
2660	RX Text--BRM	1. Medication/Medication Administered Entry, effectiveDate low with tag “Start date:” 2. Medication/Medication Administered Entry, Consumable, Manufactured Material with tag “Drugname:”
2670	RX Text--Other	1. Care Plan Section, Section Text 2. Care Plan Section, Encounters Entry, Encounter Type text
2680	Text--Remarks	1. Physician names (see Physician and Reporting Facility Data Elements document for details) 2. Progress Notes Section, Section Text
2690	Text--Place of Diagnosis	Reporting organization (Custodian) Name, needs to include text that clearly indicates that this is reporting facility, not necessarily diagnosing facility (“Reporting Facility:”)

Translation and Mapping Rules (MU3)

Where data item values are missing or null, eMaRC Plus will apply default values that have been set up; otherwise it will leave the item blank/empty. Registries can modify the default value for any data item through the *Manage Abstract Display* feature.

Name--Last [#2230]

Name--Suffix [#2270]

Name--First [#2240]

Name--Middle [#2250]

Name--Maiden [#2390]

Name--Alias [#2280]

Rule #	Mapping/Translation Rules
	Patient Last Name [#2230]
1	Map CDA recordTarget name/family (qualifier not=BR or CL) to NAACCR Name--Last [#2230].
2	Truncate Last Name if more than 40 letters long.
3.a	Blanks, spaces, hyphens, and apostrophes are allowed.
3.b	Do not use other punctuation.
	Name--Suffix [#2270]
1	Map CDA recordTarget name/suffix to NAACCR Name--Suffix [#2270].
2.a	Blanks, spaces, hyphens, and apostrophes are allowed.
2.b	Do not use other punctuation.
	Patient First Name [#2240]
1	Map CDA recordTarget first occurrence in CDA document of name/given to NAACCR Name--First.
2	Truncate First Name if more than 40 letters long.
3.a	Blanks, spaces, hyphens, and apostrophes are allowed.
3.b	Do not use other punctuation.
	Patient Middle Name [#2250]
1	Map CDA recordTarget second occurrence in CDA document of name/given where qualifier is not ‘CL’ to NAACCR Name--Middle.
2	Truncate Middle Name if more than 40 letters long.
3.a	Blanks, spaces, hyphens, and apostrophes are allowed.
3.b	Do not use other punctuation.
	Patient Maiden Name [#2390]
1	Map CDA recordTargetname/family (Qualifier = BR) to NAACCR Name--Maiden.
2	Truncate Maiden Name if more than 40 letters long.
3.a	Blanks, spaces, hyphens, and apostrophes are allowed.
3.b	Do not use other punctuation.
	Patient Alias [#2280]
1	Map CDA recordTarget Family (Qualifier = CL) to NAACCR Name--Alias.
2	Truncate Alias if more than 40 letters long.

Rule #	Mapping/Translation Rules
3.a	Blanks, spaces, hyphens, and apostrophes are allowed.
3.b	Do not use other punctuation.

Telephone [#2360]

Addr at Dx--NO & Street [#2330]

Addr at DX--Supplementl [#2335]

Addr at DX--City [#70]

Addr at Dx--State [#1820]

Addr at Dx--Postal Code [#1830]

Addr at Dx--Country [#102]

Addr at Dx--County [#96]

Addr at DX--Supplementl [#2335]

Addr Current--No & Street [#2350]

Addr Current--City [#1810]

Addr Current--State [#1820]

Addr Current--Postal Code [#1830]

Addr Current--Country [#1832]

NOTE: Both complete and incomplete addresses will be used in the rules below.

Rule #	Mapping/Translation Rules
	Telephone [#2360]
1	Remove "tel", ":", "-" and "()".
2	If present, remove leading "1" and/or “+”.
3	If null flavor = "NA" set Telephone to "0000000000".
1	Address
1.a	Ignore CDA address if AddressUse is not “home”, “HP” or “H” (Ignore for both Address at Diagnosis and Address Current data items).
1.b	If there are no addresses with an AddressUse of “home”, use all addresses to determine Address at Diagnosis and Address Current data items.
1.c	If AddressUse is absent, use all addresses to determine Address at Diagnosis and Address Current.
2	Address at Diagnosis
2.a	If only one address is reported in the CDA document, set Address at Diagnosis to be that address, regardless of the low/high (start/end) dates.
2.b	If more than one address is reported and no dates are provided, set Address at Diagnosis to be the first address recorded in the CDA document.

Rule #	Mapping/Translation Rules
2.c	If more than one address is reported and Address dates surround the Diagnosis Date [#390], set Address at Diagnosis to be the earliest address where the low value (start date) is before the date of diagnosis and the high value (end date) is **ON or** after the date of diagnosis. Note: This means that an address with a start and end date surrounding the Diagnosis Date [#390] will be used over an address with a start date closer to the diagnosis date. High (date) value of NULL is the same as today's date.
2.c.1	If more than one address is reported AND Address dates surround the Diagnosis Date [#390] AND the start dates are the same, set Address at Diagnosis to be the first address recorded in the CDA document.
2.d	If more than one address is reported and Address dates do not surround the Diagnosis Date [#390], set Address at Diagnosis to be the earliest address.
2.d.1	If more than one address is reported and Address dates do not surround the Diagnosis Date [#390], AND the start dates are the same, set Address at Diagnosis to be the first address recorded in the CDA document.
3	For Address at Diagnosis selected
3.a	For NAACCR “Addr at Dx--NO & Street” [#2330], use first streetAddressLine in selected address.
3.b	For “Addr at DX--Supplementl” [#2335], use second and subsequent CDA streetAddressLine in selected address (concatenate if more than second line is used).
3.c	If the state populates the County element with the G prefix and 3-digit numeric code for County. eMaRC will look for and only map the values with the G to the geocoded county at diagnosis data item [#96] (eMaRC will then drop the G during mapping so only the numeric digits will be mapped into the NAACCR field).
3.d	If Country provided is “US”, convert to “USA”.
4	Address Current
4.a	If only one address is reported in the CDA document, set Address Current to be that address, regardless of the low/high (start/end) dates.
4.b	If more than one address is reported, and the useablePeriod/high has a nullFlavor of “NA”, then set Address Current to be that address.
4.b	If more than one address is reported and no dates are provided, set Address Current to be the last address recorded in the CDA document.
4.c	If more than one address is reported, and only one address has no high value (end date), set Address Current to be the address with no end date.
4.d	If more than one address is reported, and all have ends dates, set Address Current to be the most recent address where the high value (**end** date) is closest to today’s date.
4.d.1	If the end date is the same for two or more addresses, or if there is more than one address with no end date, set Address Current to be the address with the **start** date closest to today’s date.
5	For Address Current selected
5.a	For NAACCR “Addr Current--No & Street” [#2350], use first streetAddressLine in selected address.
5.b	For “Addr Current--Supplementl” [#2355], use second and subsequent CDA streetAddressLine in selected address (concatenate if more than second line is used).
5.c	If Country provided is “US”, convert to “USA”.

Patient Sex/Gender [#220]

Rule #	Mapping/Translation Rules
1	Map CDA administrativeGenderCode to NAACCR Patient Sex using Table TRANS_SEX.

Patient Date of Birth [#240]

Rule #	Mapping/Translation Rules
1	Map CDA recordTarget birthTime to NAACCR Date of Birth.
2	If Date of Birth is blank/empty, then set date of Birth Flag to the value of “12- A proper value is applicable but not known. This event occurred but the date is unknown.”

Patient Age at Diagnosis [#230]

Rule #	Mapping/Translation Rules
1	Do not calculate if either Date of Diagnosis or Date of Birth is missing. • Apply the default value when available; otherwise leave empty.
2	Calculate Age at diagnosis using the formula: NAACCR Date of diagnosis - NAACCR Date of Birth.

Medical Record Number [#2300]

Rule #	Mapping/Translation Rules
1	Map CDA recordTarget ID (not @root= '2.16.840.1.113883.4.1') to NAACCR Medical Record Number.

Social Security Number [#2320]

Rule #	Mapping/Translation Rules
1	Map CDA recordTarget ID (@root= '2.16.840.1.113883.4.1') to NAACCR Social Security Number.
2	Remove Dashes.
3	If CDA recordTarget ID (@root= '2.16.840.1.113883.4.1') is less than 9 digits, “X” will be added to the NAACCR item from the left to replace the missing digits.

Medicare Beneficiary Number [#2315]

Rule #	Mapping/Translation Rules
1	Map CDA Header patientRole/id when OID=2.16.840.1.113883.4.572 to NAACCR Medicare Beneficiary Identifier (MBI) (#2315). If MBI is not recorded, leave NAACCR MBI (#2315) empty/blank.
1.a	If MBI is not recorded, leave NAACCR MBI (#2315) empty/blank.

Birthplace State [#252]

Birthplace Country [#254]

Rule #	Mapping/Translation Rules
1	Birthplace State
1.a	Map CDA recordTarget Birthplace State to NAACCR Birthplace--State.
1.b	If Birthplace--State is missing or null, populate with “ZZ”.
2	Birthplace Country [#254]
2.a	Map CDA recordTarget BirthPlace Country to NAACCR Birthplace--Country.
2.b	If Birthplace--Country is missing or null, populate with “ZZU”.
2.c	If Birthplace—Country is “US”, populate with “USA”.

Marital Status at Diagnosis [#150]

Rule #	Mapping/Translation Rules
1	Map CDA recordTarget Marital Status to NAACCR Marital Status at Diagnosis using Table: TRANS_MARITALSTATUS_CDA.

Race 1 [#160]

Race 2 [#161]

Race 3 [#162]

Race 4 [#163]

Race 5 [#164]

Rule #	Mapping/Translation Rules
1	If there are no race codes, set Race1 – Race5 to be “99”.
2	Translate all race codes in the CDA document for both raceCode and sdtc:raceCode elements to the NAACCR codes using the Race Translation table.
2.a	Ignore CDA race code(s) if not found in the Race Translation table.
2.b	If **none** of the race codes are in the Race Translation table, set Race1 – Race5 to be “99”.
2.c	Do not record the same value in more than one race code field.
3	Populate Races 1-5 in the order the race codes are received, with the following exceptions:
3.a	If Race Code 07-Hawaiian is present, Set Race1 = 07.
3.b	If Race Code of “01-White” and any other Race Code(s) are present, Set Race1- RaceN* to be the other Race Code(s); Set the next RaceN* value to = 01.
3.b.1	If Race Code 04-17-Specific Asian AND Race Code 96 - Asian, NOS is present, Ignore Race Code 96 and set Race1 – RaceN* with Race Code(s) 04-17.
3.b.2	If Race Code 20-32-Specific Pacific Islander AND Race Code 97 - Pacific Islander, NOS is present, Ignore code 97 and set Race1 – RaceN* with race codes 20-32.
3.b.3	If Race Code 96-97-Asian, NOS or Pacific Islander, NOS AND Race Code 98 - Other is present, Ignore Race Code 98 and set Race1 – RaceN* with Race Code(s) 96-97.
4	Code 88 for the remaining unpopulated race fields (Race 2 - Race 5).

*RaceN = Next available (open) race data item (Race2, Race3, Race4, Race5)

Spanish/Hispanic Origin [#190]

Rule #	Mapping/Translation Rules
1	If Ethnicity Code is from [#2.16.840.1.113883.6.238 - Race & Ethnicity - CDC, translate CDA code to NAACCR value using TRANS_SPANISH_CDC_CDA.
2	If Ethnicity Code is from [#2.16.840.1.113883.12.189 - Ethnic Group (HL7), translate CDA code to NAACCR value using TRANS_SPANISH_HL7_CDA.

Census Occ Code 2010 CDC [#282]

Text--Usual Occupation [#310]

Occupation Source [#290]

Rule #	Mapping/Translation Rules
1	Census Occ Code 2010 CDC [#210]
1.a	If CDA Occupation Code System OID = '2.16.840.1.114222.4.5.314', map CDA Occupation Census Code directly to Census Occ Code 2010 CDC.
2	Text--Usual Occupation [#310]
2.a	Append text that corresponds to the occupation code selected to Text--Usual Occupation.
2.a.1	Append CDA Occupation Original Text. If not available, continue with "Set Occupation Source [#290]".
2.a.2	Append Occupation Census Display Name. If not available, continue with "Set Occupation Source [#290]".
2.a.3	If originalText and displayName are blank/empty or null, do not populate Text--Usual Occupation.
3	Set Occupation Source [#290]
3.a	If occupation code is provided and patient's age at diagnosis is less than 14 years, set Occupation Source = "8 – Not applicable, patient less than 14 years of age at diagnosis".
3.b	If occupation code is provided and patient's age at diagnosis is 14 or more years old, set Occupation Source = "1 – Reporting facility record".
3.c	Else Occupation Source = "0 – Unknown occupation/no occupation available".

Census Ind Code 2010 CDC [#272]

Text--Usual Industry [#320]

Industry Source [#300]

Census Occ/Ind Sys 70-00 [#330]

Rule #	Mapping/Translation Rules
	Census Ind Code 2010 CDC [#272]
1	If CDA Industry Code System OID = '2.16.840.1.114222.4.5.315', map CDA Industry Census Code directly to Census Ind Code 2010 CDC mapped directly from CDA Industry Census Code when it is a 4- digit census code.
	Text--Usual Industry [#320]
	Append text that corresponds to the industry code selected to Text--Usual Industry
2	Append CDA Industry Original Text. If not available, continue with "Set Industry Source [#300]".

Rule #	Mapping/Translation Rules
2.a	Append Industry Census Display Name. If not available, continue with “Set Industry Source [#300]”.
2.b	If originalText and displayName are blank/empty or null, do not populate Text--Usual Industry.
	Set Industry Source [#300]
3	If industry code is provided and patient’s age at diagnosis is less than 14 years, Industry Source = “8 – Not applicable, patient less than 14 years of age at diagnosis”.
3.a	If industry code is provided and patient’s age at diagnosis is 14 or more years, set Industry Source = “1 – Reporting facility record”.
3.b	Else Industry Source = “0 – Unknown industry/no industry available”.
	Census Occ/Ind Sys 70-00 [#330]
4	If Abstract occupation/industry census code is populated, set value = “5”.

Primary Payer at Diagnosis [#630]

Rule #	Mapping/Translation Rules
	Translate codes.
1	If the code system OID for the Payer Code is 2.16.840.1.113883.3.221.5 - Source of Payment Typology (PHDSC), translate CDA code to NAACCR Primary Payer at Diagnosis using TRANS_PAYER_TYPOLOGY_CDA.
1.a	If the code system OID for the Payer Code is 2.1.840.1.113883.6.255.1336 – X12 Data Element 1336, translate CDA code to NAACCR Primary Payer at Diagnosis using TRANS_X12_CDA. [Note: both OIDs are being allowed due to error in OID in PHIN VADS and the IG.]
1.b	If the code system OID for the Payer Code is 2.16.840.1.113883.5.4 HL7 Act Code, translate CDA code to NAACCR Data Item Primary Payer at Diagnosis using TRANS_PAYER_ACT_CODE.
1.c	If the code system OID for the Payer Code is not 2.16.840.1.113883.221.5, 2.16.840.1.113883.3.221.5, 2.1.840.1.113883.6.255.1336 or 2.16.840.1.113883.5.4 1. Do not populate Primary Payer at Diagnosis. 2. Record in the processing log.
	Select Primary Payer at Diagnosis [#630] according to the following hierarchy:
2	If sequence number is provided, use preferred policy (sequence # 1). The sequence number is an optional element in the CDA document and is defined as follows: “The <sequenceNumber> element contains a value attribute that indicates the priority of the payment source.”
2.a	If no sequence numbers are provided, use the first payer recorded in the CDA document.
2.b	If only one payer is recorded, use that payer code.

Date of Diagnosis [#390]

Rule #	Mapping/Translation Rules
1	Map CDA Cancer Diagnosis Observation effectiveTime/low to NAACCR Diagnosis Date.
2	If Date of Diagnosis is empty/blank/null flavor, then:
2.a	Leave **NAACCR** Date of Diagnosis empty.
2.b	Set date of Date of Diagnosis Flag to the value of “12- A proper value is applicable but not known. This event occurred but the date is unknown.

Histologic Type ICD-O-3 [#522]

Behavior Code ICD-O-3 [#523]

Diagnostic Confirmation ICD-O-3 [#490]

Grade [#440]

Grade Clinical [#3843]

Grade Pathological [#3844]

Grade PostRx [#3845]

Text--Histology Title [#2590]

Text--DX Proc--Path [#2570]

Rule #	Mapping/Translation Rules
	Histology [#522]
1	If the code system OID for the Histologic Type is 2.16.840.1.113883.6.43.1, (ICD-O-3) or 2.16.840.1.114222.4.11.6038 (ICD-9-CM) Map CDA Histologic Type to NAACCR Histologic Type ICD-O-3.
1.a	Remove Leading M, -, --.
1.b	Remove "/" and any digits following the /.
1.c	Remove the 5th numeric characters and any subsequent numeric characters.
2	If the code system OID for the Histologic Type is 2.16.840.1.113883.6.96 (SNOMEDCT), translate CDA Histologic Type to ICD-O-3 Histology using TRANS_SNOMED_ICDO3_HISTO_CDA.
3	If code system OID for Histologic Type is 2.16.840.1.113883.6.90 (ICD-10-CM):
3a	Update NAACCR Data Item Histology using TRANS_ICD10_SITELATHISBEH_CDA.
3b	Record the following message in the Processing Log: "*Histology code was an ICD-10-CM diagnosis code in CDA Report. Abstract has been populated with Histology Code derived from this code through crosswalk.*"
4	If CDA Histology is not provided (null flavor)
4.a	If targetSiteCode CodeSystem is ICD-9-CM
4.a.1	Update NAACCR Data Item Histology using TRANS_ICD9_SITEHISBEH_CDA.
4.a.2	Update NAACCR Data Item Behavior using TRANS_ICD9_SITEHISBEH_CDA, regardless of whether CDA Behavior is provided (even if it overwrites behavior code from CDA document).
4.a.3	Record the following message in the Processing Log: "*Histology code was unknown or null in CDA Report. Abstract has been populated with Histology Code derived from CDA primary site code (ICD9 CM diagnosis code) through crosswalk.*"
4.b	If targetSiteCode CodeSystem is ICD-10-CM
4.b.1	Update NAACCR Data Item Histology using TRANS_ICD10_SITELATHISBEH_CDA.
4.b.2	Update NAACCR Data Item Behavior using TRANS_ICD10_SITELATHISBEH_CDA, regardless of whether CDA Behavior is provided (even if it overwrites behavior code from CDA document).
4.b.3	Record the following message in the Processing Log: "*Histology code was unknown or null in CDA Report. Abstract has been populated with Histology Code derived from CDA primary site code (ICD10 CM diagnosis code) through crosswalk.*"
4.c	If value/originalText is provided, record the following message in the Processing Log: *"Histology code was unknown or null in CDA Report; original text histology information is provided in Text--Histology Title [#2590]."*
	Behavior [#523]
1	Map CDA Behavior to NAACCR Behavior Code ICD-O-3.

Rule #	Mapping/Translation Rules
2	If CDA Behavior is not provided (null flavor) or "9 – Unknown"
2.a	If CDA Histologic Type has 5 digits: 1. Update NAACCR Data Item Behavior with the 5th digit from CDA Histologic Type. 2. Record the following message in the Processing Log: "*Behavior code was unknown or null in CDA Report. Abstract has been populated with the fifth digit (Behavior Code) from the CDA Histologic Type.*" Go to **Grade [#440], Grade Clinical [#3843], Grade Pathological [#3844] and Grade Post-Therapy [#3845]** .
2.b	If NAACCR Behavior is blank/empty and CDA Histologic Type includes a "/" (slash) and numeric value following the "/" (Slash): 1. Update NAACCR Data Item Behavior with the numeric value following the "/" (Slash) from CDA Histologic Type. 2. Record the following message in the Processing Log: "*Behavior code was unknown or null in CDA Report. Abstract has been populated with the fifth digit (Behavior Code) from the CDA Histologic Type.*" Go to **Grade [#440], Grade Clinical [#3843], Grade Pathological [#3844] and Grade Post-Therapy [#3845]** .
2.c	If NAACCR Behavior is blank/empty and targetSiteCode CodeSystem is ICD-9-CM: 3. Update NAACCR Data Item Behavior using TRANS_ICD9_SITEHISBEH_CDA 4. Record the following message in the Processing Log: "*Behavior code was unknown or null in CDA Report. Abstract has been populated with Behavior Code derived from CDA primary site code (ICD9 CM diagnosis code) through crosswalk.*"
2.d	If NAACCR Behavior is blank/empty and targetSiteCode CodeSystem is ICD-10-CM: 3. Update NAACCR Data Item Behavior using TRANS_ICD10_SITELATHISBEH_CDA 4. Record the following message in the Processing Log: "*Behavior code was unknown or null in CDA Report. Abstract has been populated with Behavior Code derived from CDA primary site code (ICD10 CM diagnosis code) through crosswalk.*"
2.e	If NAACCR Behavior is blank/empty and targetSiteCode CodeSystem is SNOMED CT or ICD-O-3, set Behavior = 9.
2.f	If value/originalText is provided, record the following message in the Processing Log: *"Behavior code was unknown or null in CDA Report; original text behavior information is provided in Text--Histology Title [#2590]."*
	Grade [#440], Grade Clinical [#3843], Grade Pathological [#3844] and Grade Post-Therapy [#3845]
	If Diagnosis date is BEFORE 2018:
1	Leave Grade Clinical [#3843], Grade Pathological [#3844] and Grade Post-Therapy [#3845] blank/empty.
2	Use NAACCR Histology Data Item [#522] to assign NAACCR Data Item Grade [#440] using TRANS_GRADE table. Note: This step assigns the correct grade for the histologies that have the grade as part of the definition. Record the following message in the Processing Log: *"Grade code was assigned from the Abstract's histology code because it has grade as part of the definition"*
3	If NAACCR Grade is not populated and CDA grade is "1', "2, "3', "4", "5", "6", "7", "8", "9", map CDA Grade to NAACCR Grade [#440].
3.a	If NAACCR Grade is not populated and CDA grade is NOT "1', "2, "3', "4", "5", "6", "7", "8", "9", Record the following message in the Processing Log: *"The submitted grade code is not a valid value"*
4	If NAACCR Grade is not populated and CDA Grade is not provided (null flavor) AND (CDA Histologic Type's Code System OID = '2.16.840.1.113883.6.43.1' (ICD-O-3) or '2.16.840.1.113883.6.103' (ICD-9-CM)) AND

Rule #	Mapping/Translation Rules
	CDA Histologic Type has six numeric values (exclude M, -, --, /) AND CDA Histologic Type 6th numeric value = “1’, “2, “3’, “4”, “5”, “6”, “7”, “8”, OR “9”, Map 6th numeric value to NAACCR Grade Code [#440]. Record the following message in the Processing Log: *“Grade code was unknown or null in CDA Report. Abstract has been populated with Grade Code from the CDA histology.*
5	If NAACCR Grade is not populated and CDA Grade is not provided (null flavor) AND If CDA Histologic Type has six numeric values (exclude M, -, --, /) and CDA Histologic Type 6th numeric value is NOT “1’, “2, “3’, “4”, “5”, “6”, “7”, “8”, OR “9”, Record the following message in the Processing Log: *“The Grade Code from the CDA histology is an invalid code.”*
6	If NAACCR Grade [#440] is not populated, set to “9”.
	If Diagnosis date is 2018 or later:
1	TNM DLL populates Grade Clinical [#3843] set Grade Pathological [#3844] Grade PostRx [#3845].
2	Leave Grade [#440] blank/empty.
3	IF NAACCR histology is 9590-9992, set Grade Clinical [#3843] = ‘8’, set Grade Pathological [#3844] = ’8’ set Grade PostRx [#3845] = ‘8’
4	If NAACCR histology is (9690, 9691, 9695, or 9698) AND NAACCR primary site is (C441, C690, C695, or C696), set Grade_Clin [#3843] = ‘9’ and Grade_Path [#3844] = ‘9’
5	If NAACCR Grade Clinical [#3843] is not populated, and CDA Grade origText is populated: Append CDA Grade original text to Text--DX Proc--Path [#2570] with tag *“grade: orig text:”* Record the following message in the Processing Log: “*Grade code was unknown or null in CDA report. The CDA has original text with grade information that has been mapped to the Text—DX Proc—Path NAACCR item.”*
6	If NAACCR Grade Clinical [#3843] is not populated and CDA Grade is not provided (null flavor) and CDA Grade origText is Null/blank/empty AND CDA Histologic Type has six numeric values (exclude M, -, --, /): Map the 6th numeric value to NAACCR Grade Clinical [#3843] using TRANS_GRADE_AJCC7toAJCC8_CDA Record the following message in the Processing Log: *“Grade code was unknown or null in CDA Report. Abstract has been populated with Grade Code from the CDA histology.*
6.a	If NAACCR Grade Clinical [#3843] is not populated and CDA Grade is not provided (null flavor) and CDA Grade origText is Null/blank/empty AND CDA Histologic Type has six numeric values (exclude M, -, --, /) AND the 6th numeric value to NAACCR Grade Clinical [#3843] is not in the TRANS_GRADE_AJCC7toAJCC8_CDA table: Record the following message in the Processing Log: *“Grade code was unknown or null in CDA Report. The Grade Code from the CDA histology is an invalid code.”*
7	If NAACCR Grade Clinical [#3843] is empty/blank, set Grade_Clin [#3843] = ‘9’ and Grade_Path [#3844] = ‘9’
8	If NAACCR Grade Pathological (#3844) is empty/blank, set Grade Pathological [#3844] = ’9’
	Text--Histology Title [#2590]
1	Append Cancer Diagnosis Entry/Histologic Type/Original Text with tag “*hist orig text:*” to NAACCR Text--Histology Title.
2	Append Cancer Diagnosis Entry/Histologic Type/Display Name with tag “*hist disp name:*” to NAACCR Text--Histology Title.

Rule #	Mapping/Translation Rules
3	Append Cancer Diagnosis Entry/Behavior/Original Text with tag "*behav orig text:*" to NAACCR Text--Histology Title.
4	Append Cancer Diagnosis Entry/Behavior/Display Name with tag "*behav disp name:*" to NAACCR Text--Histology Title.
	Diagnostic Confirmation [#490]
1	Map CDA Diagnostic Confirmation to NAACCR Diagnostic Confirmation ICD-O-3.
2	If CDA Diagnostic Confirmation is not provided (null flavor) and value/originalText is provided, record the following message in the Processing Log: "*Diagnostic Confirmation code was unknown or null in CDA Report; original text Diagnostic Confirmation information is provided.*"
	Text--DX Proc--Path [#2570]
1	Append CDA Cancer Dx Section/t**ext**/paragraph with tag "*CaDiagSection text:*" to NAACCR Text--DX Proc--Path.
2	Append CDA Cancer Diagnosis Entry/Diagnostic Confirmation/Original Text, with tag "*dx conf orig text*:" to NAACCR Text--DX Proc--Path.
3	Append CDA Cancer Diagnosis Entry/Diagnostic Confirmation/Display Name, with tag "*dx conf disp name*:" to NAACCR Text--DX Proc--Path.

Primary Site [#400]

Laterality [#410]

Text--Primary Site Title [#2580]

Rule #	Mapping/Translation Rules
	Primary Site [#400]
1	Map CDA Cancer Diagnosis Observation targetSiteCode to NAACCR Item Primary Site.
1.a	Translate ICD-9-CM code (OID 2.16.840.1.113883.6.103) using eMaRC Table: TRANS_ICD9_ CDA.
1.a.1	If CDA targetSite code is ICD-9-CM (OID 2.16.840.1.113883.6.103) and cannot be translated using eMaRC Table: TRANS_ICD9_ CDA, set NAACCR Primary Site (#400) = "C809".
1.b	Translate ICD-10-CM code (OID 2.16.840.1.113883.6.90) using eMaRC Table: TRANS_ICD10_CDA.
1.b.1	If CDA targetSite code is ICD-10-CM (OID 2.16.840.1.113883.6.90) and cannot be translated using eMaRC Table: TRANS_ICD10_ CDA, set NAACCR Primary Site (#400) = "C809".
1.c	Translate SNOMEDCT code (OID 2.16.840.1.113883.6.96) using eMaRC Table: TRANS_SNOMED_ICDO3_Prim_CDA.
1.c.1	If CDA targetSite code is SNOMEDCT (OID 2.16.840.1.113883.6.90) and cannot be translated using eMaRC Table: TRANS_SNOMED_ICDO3_Prim_CDA, set NAACCR Primary Site (#400) = "C809".
2	***After translating BOTH the CDA histology to the ICDO-3 histology and translating the CDA targetSite code to ICDO-3 primary site*** Re-code primary site when ABSTRACT histologic code is melanoma or sarcoma.
2.a	Determine whether the ICDO-3 histology code is in the range of (8720-8790) or (8800-8920)
2.a.1	If it is not in the histology ranges, no further action is needed for primary site
2.a.2	If it is the histology range(s), continue
2.b	For SNOMED-CT target site code:
2.b.1	Determine whether the temporarily translated ICDO-3 primary site code is in the range of (C760 – C768, C809).
2.b.1.a	If it is not C760-C768, no further action is needed for primary site

Rule #	Mapping/Translation Rules
2.b.1.b	If it is C760-C678 continue
2.b.2	Look-up the CDA Document's targetSite code in "HL7Code" column of the TRANS_ICDO_Prim_MELANOMA_SARCOMA table and select the final ICDO-3 Primary site code from the column that matches the abstract's translated ICDO-3 histology.
2.b	Note: "C760-C768, C809" are only temporary site codes, used to determine whether a SNOMEDCT targetSite should be translated to a melanoma or sarcoma specific ICDO-3 site.
2.c	For ICD9 and ICD10 target site codes:
2.c.1	Look up the translated Primary Site code in "HL7Code" column of the TRANS_ICDO_Prim_MELANOMA_SARCOMA table and select the final ICDO-3 Primary site code from the column that matches the abstract's translated ICDO-3 histology.
	Laterality [#410]
1	If CDA Code System for CDA Cancer Diagnosis Observation targetSiteCode/qualifier is 2.16.840.1.113883.6.96, translate SNOMED Laterality code using eMaRC Table: TRANS_SNOMED_LATERALITY_CDA
2	If CDA Cancer Diagnosis Observation targetSiteCode/qualifier is not provided or is null flavor or is coded with a SNOMED value of "261665006":
2.a	If CDA Code System for Cancer Diagnosis Observation targetSiteCode is 2.16.840.1.113883.6.90 (ICD-10-CM), then derive laterality using eMaRC Table: TRANS_ICD10_SITELATHISBEH_CDA
2.b	If CDA Code System for Cancer Diagnosis Observation targetSiteCode is 2.16.840.1.113883.6.103 (ICD-9-CM) OR 2.16.840.1.113883.6.96 (SNOMED-CT), then use NAACCR Primary Site to derive NAACCR Laterality using eMaRC Table: TRANS_LATER_BASED_ON_SITE_CDA
2.c	Record the following message in the Processing Log: *"Laterality code was unknown or null in CDA Report. Abstract has been populated with Laterality derived from NAACCR Primary Site through crosswalk."*
3	If NAACCR Item Laterality is "9 – Unknown" and NAACCR Item Behavior [#410] is "2", update NAACCR Item Laterality to be "3 - Only one side involved, right or left origin unspecified".
	Text--Primary Site Title [#2580]
1	Append CDA Cancer Diagnosis Entry/Primary Site (targetSiteCode)/Display Name with tag "*site disp name:*" to NAACCR Text--Primary Site Title.
2	Append Cancer Diagnosis Entry/Laterality Original Text with tag "*lat orig text:*" to NAACCR Text--Primary Site Title.
3	Append Cancer Diagnosis Entry/Laterality/Display Name with tag "*lat disp name:*" to NAACCR Text--Primary Site Title.

CLINICAL TNM STAGING

TNM Edition Number [#1060]

Note: eMaRC determines which set of rules (below) to use based on TNM Edition, i.e., AJCC 7th Edition or AJCC 8th Edition.

If year of Date of Diagnosis is 2016 or later, NAACCR TNM Clinical Stage Group cannot be blank. NAACCR TNM Clinical Stage may be blank if the diagnosis year is less than 2016.
Regardless of diagnosis year, if the CDA TNM Clinical Stage Group is blank/empty, eMaRC will derive the value, based on site/histology, to be either "99-Unknown, not staged" or "88 –Not applicable, no code assigned for this case in the current AJCC Staging Manual".

Rule #	Mapping/Translation Rules
1	If (CDA TNM Clinical Stage Group is NOT present (blank/empty/null flavor='UNK', 'NI'), OR the No Known TNM Clinical Stage Observation **IS** present). Record the following message to processing log: "*No stage information was added to the abstract because the TNM Clinical Stage Group was not provided."* **Continue processing with rules below for "Set Default Values for TNM Clinical Elements".**
2	If CDA TNM Clinical Stage Group is present, translate CDA TNM Clinical Stage Group Code System OID to NAACCR TNM Edition Number [#1060] using translation table: TRANS_TNM_CODESYSTEMOID.
2.a	If the CDA TNM Clinical Stage Group Code System OID is not in the TRANS_TNM_CODESYSTEMOID table. Record the following message to processing log: *"No stage information was added to the abstract because TNM Clinical Stage Group Code System OID <value> is not valid".* **Continue processing with rules below for "Set Default Values for AJCC TNM Clinical Elements".**
3	Determine whether NAACCR TNM Edition and DX Date are discrepant
3.a	If CDA Diagnosis Date is 2018 or greater AND NAACCR TNM Edition is "07": Record the following message to processing log: *"No stage information was added to the abstract because the dxdate and the TNM edition are discrepant".* **Continue processing with rules below for "Set Default Values for AJCC TNM Clinical Elements".**
3.b	If CDA Diagnosis Date is 2017 or earlier AND NAACCR TNM Edition is "08": Record the following message to processing log: *"No stage information was added to the abstract because the dxdate and the TNM edition are discrepant".* **Continue processing with rules below for "Set Default Values for AJCC TNM Clinical Elements".**
4	Determine which set of rules to use to process Clinical TNM Staging Section information, below.
4.a	If NAACCR TNM Edition is "07", use the following rules to process the remaining TNM data elements: • 7th Edition – CLINICAL TNM Staging
4.b	If NAACCR TNM Edition is "08": • 8th Edition – CLINICAL TNM Staging

7th Edition – CLINICAL TNM Staging

TNM Clin Stage Group [#970]

TNM Clin Descriptor [#980]

TNM Clin Staged By [#990]

TNM Clin T [#940]

TNM Clin N [#950]

TNM Clin M [#960]

Rule #	Mapping/Translation Rules
	TNM Clin Stage Group [#970]
1	Translate CDA TNM Clinical Stage Group to NAACCR TNM Clin Stage Group [#970] using TRANS_AJCC7_CLIN_STAGEGROUP_CDA table
1.a	If CDA TNM Clinical Stage Group is not in TRANS_AJCC7_CLIN_STAGEGROUP_CDA table: Record the following message to processing log: *"TNM Clinical Stage Group value <value> cannot be translated."* Go to **"Set Default Values for AJCC TNM Clinical Elements"** rules for processing.
	TNM Clin Descriptor [#980]
2	If CDA TNM Clinical Stage Descriptor is present and Date of Diagnosis year is between 2014 and 2017, map CDA TNM Clinical Stage Descriptor directly to NAACCR TNM Clin Descriptor [#980].
2.a	If NAACCR Date of Diagnosis year is between 2014 and 2017 and CDA TNM Clinical Stage Descriptor is NOT present (blank/empty/nullFlavor='UNK'), set TNM Clin Descriptor = '9'.
2.b	If NAACCR Date of Diagnosis year is less than 2014 or greater than 2017, set NAACCR TNM Clin Descriptor to be Blank
	TNM Clin Staged By [#990]
3	Translate CDA Stager Clinical Cancer to TNM Clin Staged By [#990] using TRANS_STAGED_BY_CDA table**.**
3.a	If CDA TNM Stager Clinical Cancer is blank/empty, or is null flavor, set NAACCR TNM Clin Staged By to "99"
	TNM Clin T [#940]
4	Translate CDA TNM Clinical T to TNM Clin T [#940] using TRANS_AJCC7_CLIN_T.
4.a	If CDA TNM Clinical T is not in TRANS_AJCC7_CLIN_T table, leave TNM Clinical T = blank/empty. Record the following message to processing log: "CDA *TNM Clinical T value <value> cannot be translated".*
	TNM Clin N [#950]
5	Translate CDA TNM Clinical N to TNM Clin N [#950] using TRANS_AJCC7_CLIN_N.
5.a	If CDA TNM Clinical N is not in TRANS_AJCC7_CLIN_N table, leave TNM Clinical N = blank/empty. Record the following message to processing log: "CDA *TNM Clinical N value <value> cannot be translated".*
	TNM Clin M [#960]

Rule #	Mapping/Translation Rules
6	Translate CDA TNM Clinical M to TNM Clin M [#960] using TRANS_AJCC7_CLIN_M.
6.a	If CDA TNM Clinical M is not in TRANS_AJCC7_CLIN_M table, leave TNM Clinical M = blank/empty. Record the following message to processing log: "CDA *TNM Clinical M value <value> cannot be translated".*
7	Continue processing with rules for "Text--Staging [#2600]" (below)

8th Edition CLINICAL TNM Staging

AJCC TNM Clin Stage Group [#1004]

TNM Clin Staged By [#990]

AJCC TNM Clin T [#1001]

AJCC TNM Clin N [#1002]

AJCC TNM Clin M [#1003]

AJCC ID [#995]

Schema ID [#3800]

Rule #	Mapping/Translation Rules
1	Determine AJCC ID [#995] and (SSDI) Schema ID [#3800] using TNM dll and populate abstract with these values
	AJCC TNM Clin Stage Group [#1004]
2	Translate CDA TNM Clinical Stage Group to NAACCR AJCC TNM Clin Stage Group [#1004] using TRANS_AJCC8_CLIN_STAGEGROUP_CDA table
2.a	If CDA TNM Clinical Stage Group is not in TRANS_AJCC8_CLIN_STAGEGROUP_CDA table: Record the following message to processing log: *"CDA TNM Clinical Stage Group value <value> cannot be translated."* Go to **"Set Default Values for AJCC TNM Clinical Elements"** rules for processing.
	TNM Clin Staged By [#990]
3	Translate CDA Stager Clinical Cancer to TNM Clin Staged By [#990] using TRANS_STAGED_BY_CDA table**.**
3.a	If CDA TNM Stager Clinical Cancer is blank/empty, or is null flavor, set NAACCR TNM Clin Staged By to "99".
	AJCC TNM Clin T [#1001]
4	Translate CDA TNM Clinical T to NAACCR AJCC TNM Clin T [#1001] using TRANS_AJCC8_CLIN_T.
4.a	If CDA TNM Clinical T is not in TRANS_AJCC8_CLIN_T table, leave NAACCR AJCC TNM Clinical T = blank/empty.

Rule #	Mapping/Translation Rules
	Record the following message to processing log: "CDA *TNM Clinical T value <value> cannot be translated".*
	AJCC TNM Clin N [#1002]
5	Translate CDA TNM Clinical N to NAACCR AJCC TNM Clin N [#1002] using TRANS_AJCC8_CLIN_N.
5.a	If CDA TNM Clinical N is not in TRANS_AJCC8_CLIN_N table, leave NAACCR AJCC TNM Clinical N = blank/empty. Record the following message to processing log: "CDA *TNM Clinical N value <value> cannot be translated".*
	AJCC TNM Clin M [#1003]
6	Translate CDA TNM Clinical M to NAACCR AJCC TNM Clin M [#1003] using TRANS_AJCC8_CLIN_M.
6.a	If CDA TNM Clinical M is not in TRANS_AJCC8_CLIN_M table, leave NAACCR AJCC TNM Clinical M = blank/empty. Record the following message to processing log: "CDA *TNM Clinical M value <value> cannot be translated".*
7	Continue processing with rules for "Text--Staging [#2600]" (below)

Set Default Values for AJCC TNM Clinical Elements

Rule #	Mapping/Translation Rules
1	**If CDA Diagnosis Date is 2018 or greater**, determine AJCC ID [#995] and (SSDI) Schema ID [#3800] using TNM dll and populate abstract with these values
1.a	If AJCC ID is a value other than "XX" (TNM Clinical Stage Group is Blank/Null): set NAACCR AJCC TNM Clin Stage Group [#1004] to be "99" set TNM Edition Number [#1060] to be "00" set TNM Clinical Staged By [#990] to be "99" Continue processing with rules for "Text--Staging [#2600]" (below)
1.b	If AJCC Schema ID is "XX" (TNM Clinical Stage Group is Blank/Null): set NAACCR AJCC TNM Clin Stage Group [#1004] to be "88" set TNM Edition Number [#1060] to be "88" set TNM Clinical Staged By [#990] to be "88" set NAACCR AJCC TNM Clin Stage T [#1001] to be "88" set NAACCR AJCC TNM Clin Stage N [#1002] to be "88" set NAACCR AJCC TNM Clin Stage M [#1003] to be "88" Continue processing with rules for "Text--Staging [#2600]" (below)
2	**If CDA Diagnosis Date is 2017 or earlier**, use TRANS_STAGE_DEFAULTS Table to determine whether to set TNM Clin Stage Group to "88" or "99".
2.a	If NAACCR Primary Site and NAACCR Histology appear on the same row in TRANS_STAGE_DEFAULTS Table, set TNM Clin Stage Group [#970] to be "99" set TNM Clinical Stage Descriptor [#980] to be "9" set TNM Edition Number [#1060] to be "00" set TNM Clinical Staged By [#990] to be "99" Continue processing with rules for "Text--Staging [#2600]" (below)
2.b	If NAACCR Primary Site and NAACCR Histology are not on the same row in TRANS_STAGE_DEFAULTS, set TNM Clin Stage Group [#970] to be "88" set TNM Clinical Stage Descriptor [#980] to be "8" set TNM Edition Number [#1060] to be "88" set TNM Clinical Staged By [#990] to be "88" set TNM Clin Stage T [#940] to be "88" set TNM Clin Stage N [#950] to be "88" set TNM Clin Stage M [#960] to be "88" Continue processing with rules for "Text--Staging [#2600]" (below)

Text Staging [#2600]

Rule #	Mapping/Translation Rules
	Text--Staging [#2600]
1	Append Cancer Diagnosis Entry/TNM Clinical Stage Group/Original Text with tag "*Clin Stage Grp orig text:*" to Text--Staging [#2600].
2	Append Cancer Diagnosis Entry/TNM Clinical Stage Descriptor/Display Name with tag "*Clin Stage descript disp name:*" to Text--Staging [#2600].

3	Append Cancer Diagnosis Entry, TNM Edition Number Display Name with tag "*TNM Ed disp name:*" to Text--Staging [#2600].
4	Append Cancer Diagnosis Entry/TNM Clinical T, N, and M/Original Text with tag "*Clin T orig text:*", "*Clin N orig text:*", or "*Clin M orig text:*" to Text--Staging [#2600].
5	Append Cancer Diagnosis Entry/TNM Clinical T, N, and M/Display Name with tag "*Clin T disp name:*", "*Clin N disp name:*", or "*Clin M disp name:*" to Text--Staging [#2600].
6	Map CDA Cancer Diagnosis Observation text with tag *"Cancer/Staging:"* to NAACCR Text—Staging.

PATHOLOGIC TNM STAGING

TNM Edition Number [#1060]

Note: eMaRC determines which set of rules (below) to use based on TNM Edition, i.e., AJCC 7th Edition or AJCC 8th Edition.

If year of Date of Diagnosis is 2016 or later, NAACCR TNM Pathologic Stage Group cannot be blank. NAACCR TNM Pathologic Stage may be blank if the diagnosis year is less than 2016.
Regardless of diagnosis year, if the CDA TNM Pathologic Stage Group is blank/empty, eMaRC will derive the value, based on site/histology, to be either "99-Unknown, not staged" or "88 –Not applicable, no code assigned for this case in the current AJCC Staging Manual".

Rule #	Mapping/Translation Rules
1	If (CDA TNM Pathologic Stage Group is NOT present (blank/empty/null flavor='UNK', 'NI'), OR the No Known TNM Pathologic Stage Observation **IS** present). Record the following message to processing log: "*No stage information was added to the abstract because the TNM Pathologic Stage Group was not provided."* **Continue processing with rules below for "Set Default Values for AJCC TNM Pathological Elements".**
2	If CDA TNM Pathologic Stage Group is present, translate CDA TNM Pathologic Stage Group Code System OID to NAACCR TNM Edition Number [#1060] using translation table: TRANS_TNM_CODESYSTEMOID.
2.a	If the CDA TNM Pathologic Stage Group Code System OID is not in the TRANS_TNM_CODESYSTEMOID table. Record the following message to processing log: *"No stage information was added to the abstract because TNM Pathologic Stage Group Code System OID <value> is not valid".* **Continue processing with rules below for "Set Default Values for AJCC TNM Pathological Elements".**
3	Determine whether NAACCR TNM Edition and DX Date are discrepant
3.a	If CDA Diagnosis Date is 2018 or greater AND NAACCR TNM Edition is "07": Record the following message to processing log: *"No stage information was added to the abstract because the dxdate and the TNM edition are discrepant".* **Continue processing with rules below for "Set Default Values for AJCC TNM Pathological Elements".**
3.b	If CDA Diagnosis Date is 2017 or earlier AND NAACCR TNM Edition is "08":

Rule #	Mapping/Translation Rules
	Record the following message to processing log: *"No stage information was added to the abstract because the dxdate and the TNM edition are discrepant".* **Continue processing with rules below for "Set Default Values for AJCC TNM Pathological Elements".**
4	Determine which set of rules to use to process Pathologic TNM Staging Section information, below.
4.a	If NAACCR TNM Edition is "07", use the following rules to process the remaining TNM data elements: • 7th Edition – Pathologic TNM Staging
4.b	If NAACCR TNM Edition is "08": • 8th Edition – Pathological TNM Staging

7th Edition – PATHOLOGIC TNM Staging

TNM Path Stage Group [#910]

TNM Path Descriptor [#920]

TNM Edition Number [#1060]

TNM Path Staged By [#930]

TNM Path T [#880]

TNM Path N [#890]

TNM Path M [#900]

Rule #	Mapping/Translation Rules
	TNM Path Stage Group [#910]
1	Translate CDA TNM Pathologic Stage Group to NAACCR TNM Path Stage Group [#910] using TRANS_Path_STAGEGROUP_CDA table
1.a	If CDA TNM Pathologic Stage Group is not in TRANS_Path_STAGEGROUP_CDA table: Record the following message to processing log: *"TNM Pathologic Stage Group value cannot be translated."* Go to "**Set Default Values for AJCC TNM Pathological Elements" rules for processing.**
	TNM Path Descriptor [#920]
2	If CDA TNM Pathologic Stage Descriptor is present and Date of Diagnosis year is between 2014 and 2017, map CDA TNM Pathologic Stage Descriptor directly to NAACCR TNM Path Descriptor [#920].
2.a	If NAACCR Date of Diagnosis year is between 2014 and 2017 and CDA TNM Pathologic Stage Descriptor is NOT present (blank/empty/nullflavor='UNK'), set TNM Path Descriptor = '9':
2.b	If NAACCR Date of Diagnosis year is less than 2014 or is greater than 2017, set NAACCR TNM Path Descriptor to be Blank
	TNM Path Staged By [#930]

Rule #	Mapping/Translation Rules
3	Translate CDA Stager Pathologic Cancer to TNM Path Staged By [#930] using TRANS_STAGED_BY_CDA table**.**
3.a	If CDA TNM Stager Pathologic Cancer is blank/empty, or is null flavor, set NAACCR TNM Path Staged by to "99"
	TNM Path T [#880]
4	Translate CDA TNM Pathologic T to TNM Path T [#880] using TRANS_AJCC7_PATH_T.
4.a	If CDA TNM Pathologic T is NOT in TRANS_AJCC7_PATH_T table, leave TNM Pathologic T = blank/empty. Record the following message to processing log: "CDA *TNM Pathologic T value <value> cannot be translated".*
	TNM Path N [#890]
5	Translate CDA TNM Pathologic N to TNM Path N [#890] using TRANS_AJCC7_PATH_N.
5.a	If CDA TNM Pathologic N is NOT in TRANS_AJCC7_PATH_N table, leave TNM Pathologic N = blank/empty. Record the following message to processing log: "CDA *TNM Pathologic N value <value> cannot be translated".*
	TNM Path M [#900]
6	Translate CDA TNM Pathologic M to TNM Path M [#900] using TRANS_AJCC7_PATH_M.
6.a	If CDA TNM Pathologic M is NOT in TRANS_AJCC7_PATH_M table, leave TNM PATH M = blank/empty. Record the following message to processing log: "CDA *TNM Pathologic M value <value> cannot be translated".*

8th Edition PATHOLOGIC TNM Staging

AJCC TNM Path Stage Group [#1014]

TNM Path Staged By [#930]

AJCC TNM Path T [#1011]

AJCC TNM Path N [#1012]

AJCC TNM Path M [#1013]

AJCC ID [#995]

Schema ID [#3800]

Rule #	Mapping/Translation Rules
1	Determine AJCC ID [#995] and (SSDI) Schema ID [#3800] using TNM dll and populate abstract with these values
2	AJCC TNM Path Stage Group [#1014]
2.a	Translate CDA TNM Pathologic Stage Group to NAACCR AJCC TNM Path Stage Group [#1014] using TRANS_AJCC8_PATH_STAGEGROUP_CDA table
2.b	If CDA TNM Pathologic Stage Group is not in TRANS_AJCC8_PATH_STAGEGROUP_CDA table: Record the following message to processing log: *"TNM Pathological Stage Group value cannot be translated."*

Rule #	Mapping/Translation Rules
	Go to "**Set Default Values for AJCC TNM Pathological Elements" rules for processing.**
3	TNM Path Staged By [#930]
3.a	Translate CDA Stager Pathologic Cancer to TNM Path Staged By [#930] using TRANS_STAGED_BY_CDA table**.**
3.b	If CDA TNM Stager Pathologic Cancer is blank/empty, or is null flavor, set NAACCR TNM Staged By to "99".
4	AJCC TNM Path T [#1011]
4.a	Translate CDA TNM Pathologic T to NAACCR AJCC TNM Path T [#1011] using TRANS_AJCC8_PATH_T.
4.b	If CDA TNM Pathologic T is NOT in TRANS_AJCC8_PATH_T table, leave NAACCR AJCC TNM Pathologic T = blank/empty. Record the following message to processing log: "CDA *TNM Pathological T value <value> cannot be translated".*
5	AJCC TNM Path N [#1012]
5.a	Translate CDA TNM Pathologic N to NAACCR AJCC TNM Path N [#1012] using TRANS_AJCC8_PATH_N.
5.b	If CDA TNM Pathologic N is NOT in TRANS_AJCC8_PATH_N table, leave NAACCR AJCC TNM Pathologic N = blank/empty. Record the following message to processing log: "CDA *TNM Pathological N value <value> cannot be translated".*
6	AJCC TNM Path M [#1013]
6.a	Translate CDA TNM Pathologic M to NAACCR AJCC TNM Path M [#1013] using TRANS_AJCC8_PATH_M.
6.b	If CDA TNM Pathologic M is NOT in TRANS_AJCC8_PATH_M table, leave NAACCR AJCC TNM Pathologic M = blank/empty. Record the following message to processing log: "CDA *TNM Pathological M value <value> cannot be translated".*

Set Default Values for AJCC TNM Pathological Elements

Rule #	Mapping/Translation Rules
1	**If CDA Diagnosis Date is 2018 or greater**, determine AJCC ID [#995] and (SSDI) Schema ID [#3800] using TNM dll and populate abstract with these values
1.a	If AJCC ID is a value other than "XX" (TNM Pathological Stage Group is Blank/Null): set NAACCR AJCC TNM Path Stage Group [#1014] to be "99" set TNM Edition Number [#1060] to be "00" set TNM Pathologic Staged By [#930] to be "99" Continue processing with rules for "Text--Staging [#2600]" (below)
1.b	If AJCC Schema ID is "XX" (TNM Pathological Stage Group is Blank/Null): set NAACCR AJCC TNM Path Stage Group [#1014] to be "88" set TNM Edition Number [#1060] to be "88" set TNM Pathologic Staged By [#930] to be "88" set NAACCR AJCC TNM Path Stage T [#1011] to be "88" set NAACCR AJCC TNM Path Stage N [#1012] to be "88"

Rule #	Mapping/Translation Rules
	set NAACCR AJCC TNM Path Stage M [#1013] to be “88” Continue processing with rules for “Text--Staging [#2600]” (below)
2	**If CDA Diagnosis Date is 2017 or earlier**, use TRANS_STAGE_DEFAULTS Table to determine whether to set TNM Path Stage Group to “88” or “99”.
2.a	If NAACCR Primary Site and NAACCR Histology appear on the same row in TRANS_STAGE_DEFAULTS Table, set TNM Path Stage Group [#910] to be “99” set TNM Pathologic Stage Descriptor [#920] to be “9” set TNM Edition Number [#1060] to be “00” set TNM Pathologic Staged By [#930] to be “99” Continue processing with rules for “Text--Staging [#2600]” (below)
2.b	If NAACCR Primary Site and NAACCR Histology are not on the same row in TRANS_STAGE_DEFAULTS, set TNM Path Stage Group [#910] to be “88” set TNM Pathologic Stage Descriptor [#920] to be “8” set TNM Edition Number [#1060] to be “88” set TNM Pathologic Staged By [#930] to be “88” set TNM Path Stage T [#880] to be “88” set TNM Path Stage N [#890] to be “88” set TNM Path Stage M [#900] to be “88” Continue processing with rules for “Text--Staging [#2600]” (below)

Text Staging [#2600]

Rule #	Mapping/Translation Rules
	Text--Staging [#2600]
1	Append Cancer Diagnosis Entry/TNM Pathologic Stage Group/Original Text with tag “*Path Stage Grp orig text:*” to Text--Staging [#2600].
2	Append Cancer Diagnosis Entry/TNM Pathologic Stage Descriptor/Display Name with tag “*Path Stage descript disp name:*” to Text--Staging [#2600].
3	Append Cancer Diagnosis Entry, TNM Edition Number Display Name with tag “*TNM Ed disp name:*” to Text--Staging [#2600].
4	Append Cancer Diagnosis Entry/TNM Pathologic T, N, and M/Original Text with tag “*Path T orig text:*”, “*Path N orig text:*”, or “*Path M orig text:*” to Text--Staging [#2600].
5	Append Cancer Diagnosis Entry/TNM Pathologic T, N, and M/Display Name with tag “*Path T disp name:*”, “*Path N disp name:*”, or “*Path M disp name:*” to Text--Staging [#2600].
6	Map CDA Cancer Diagnosis Observation text with tag *“Cancer/Staging:”* to NAACCR Text—Staging.

State Specific Data Items (SSDI)

Note: eMaRC 6.1 and previous versions do not populate SSDI

Rule #	Mapping/Translation Rules
1	Populate all SSDIs with the appropriate “Unknown”/ “Not Applicable” value

Summary Stage

eMaRC Rule Selection of Summary Stage 2000 [#759] or Summary Stage 2018 [#764]

Note: This is the first step for processing Summary Stage.

Rule #	Mapping/Translation Rules
1	Determine which data item to populated
1.a	If NAACCR Diagnosis Date Year is <= 2017, populate Summary Stage 2000 (rules are below).
1.b	If NAACCR Diagnosis Date Year is >= 2018, populate Summary Stage 2018 (rules are below).
1.c	If NAACCR Diagnosis Date Year is blank/empty, do not populate either Summary Stage 2000 or Summary Stage 2018.

Summary Stage 2000 [#759]

Rule #	Mapping/Translation Rules
	Summary Stage 2000 [#759]
1	Blood/bone marrow disease primary sites: IF **Translated** Primary Site [#400] code value in (C420, C421, C423, C424,) Set Summary Stage 2000 [#759] = “7”.
2	Blood/bone marrow disease histologies: IF **Translated** Histology [#522] code value in (9760-9763, 9800-9820, 9826, 9831-9992), Set Summary Stage 2000 [#759] = “7”.
3	IF both **Translated** Clinical Stage Group [#970] code value = (“0” or “0A” or “0IS”) AND **Translated** Pathologic Stage Group [#910] code value = (“0” or “0A” or “0IS”) OR IF **Translated** Clinical Stage Group [#970] code value = (“0” or “0A” or “0IS”) AND Translated Pathologic Stage Group [#910] is “99” OR IF **Translated** Clinical Stage Group [#970] is “99” AND Translated Pathologic Stage Group [#910] code value = (“0” or “0A” or “0IS”) Set Summary Stage 2000 [#759] = “0”.
4	IF **Translated** TNM Clin M [#960] code value begins with “c1” or **Translated** TNM Path M [#900] code value begins with “p1”, Set Summary Stage 2000 [#759] = “7”.
5	If [Translated (Clinical Stage T = (“c1” or “p1”) and Clinical Stage N = “c0” and Clinical Stage M = “c0”) and Translated (Pathologic Stage T = “p1” and Pathologic Stage N = “p0” and Pathologic Stage M is any of (“pX”, “c0”, or “c0I+”)] OR [If Translated Pathologic (T, N, and M) are empty/blank, AND Translated (Clinical Stage T = (“c1” or “p1”) and Clinical Stage N = “c0” and Clinical Stage M = “c0”)] OR

Rule #	Mapping/Translation Rules
	[If Translated Clinical (T, N, and M) are empty/blank AND Translated (Pathologic Stage T = “p1” and Pathologic Stage N = “p0” and Pathologic Stage M is any of (“pX”, “c0”, “c0I+”)] Set Summary Stage 2000 [#759] = “1”.
6 (AJCC 7)	IF **Translated** Primary Site [#400] code value = “C619”, use the table identified within the rule to set Summary Stage 2000 [#759].
6.a (AJCC7)	If the translated TNM Clin T [#940], TNM Clin N [#950], and TNM Clin M [#960] match a row in the TRANS_STAGE_PROSTATE_AJCC7_CLIN_CDA Table, Set Summary Stage 2000 [#759] = the corresponding SEERSummStg2000 value in the same row.
6.b (AJCC7)	If the translated TNM Path T [#880], TNM Path N [#890], and TNM Path M [#900] match a row in the TRANS_STAGE_PROSTATE_AJCC7_PATH_CDA Table, and the corresponding Summary Stage 2000 [#759] is **HIGHER** than the value (excluding “8” or “9”) than the Translated Summary Stage 2000 (set during Step 6.a), Set Summary Stage 2000 [#759] = the corresponding SEERSummStg2000 value in the same row.
7 (AJCC7)	IF **Translated** Primary Site [#400] code value = “C670-C679”, use the table identified within the rule to set NAACCR SEER Summary Stage 2000:
7.a (AJCC7)	If the translated TNM Clin T [#940], TNM Clin N [#950], and TNM ClinM [#960] match a row in the TRANS_STAGE_BLADDER_AJCC7_CDA Table, Set Summary Stage 2000 [#759] to be equal the corresponding SEERSummStg2000 value in the same row.
7.b (AJCC7)	If the translated TNM Path T [#880], TNM Path N [#890], and TNM Path M [#900] match a row in the TRANS_STAGE_BLADDER_AJCC7_CDA Table, and the corresponding Summary Stage 2000 [#759] is **HIGHER** than the value (excluding “8” or “9”) than the Translated Summary Stage 2000 (set during Step 7.a), Set Summary Stage 2000 [#759] = the corresponding SEERSummStg2000 value in the same row.
8 (AJCC7)	IF **Translated** Histology [#522] code value = “8720-8780”, use the table identified within the rule to set NAACCR SEER Summary Stage 2000:
8.a (AJCC7)	If the translated TNM Clin T [#940], TNM Clin N [#950], and TNM ClinM [#960] match a row in the TRANS_STAGE_MELANOMA_AJCC7_CLIN_CDA Table, Set Summary Stage 2000 [#759] to be equal the corresponding SEERSummStg2000 value in the same row.
8.b (AJCC7)	If the translated TNM Path T [#880], TNM Path N [#890], and TNM Path M [#900] match a row in the TRANS_STAGE_MELANOMA_AJCC7_PATH_CDA Table, and the corresponding Summary Stage 2000 [#759] is **HIGHER** than the value (excluding “8” or “9”) than the Translated Summary Stage 2000 (set during Step 8.a), Set Summary Stage 2000 [#759] = the corresponding SEERSummStg2000 value in the same row.
9	If the Translated Summary Stage 2000 [#759] is blank/empty, set Translated Summary Stage 2000 = “9”. (Note: Summary Stage 2000 will most likely be available on the cancer registry submitted abstract for these cases.)
10	Leave Summary Stage 2018 [#764] blank.

Summary Stage 2018 [#764]

Rule #	Mapping/Translation Rules
	Summary Stage 2018 [#764]
1	Blood/bone marrow disease histologies: IF **Abstract** Histology [#522] code value in (9591, 9724, 9727, 9741, 9742, 9762, 9800 , 9801, 9806-9809, 9811-9815, 9817, 9820, 9832-9834, 9837, 9840, 9860, 9861, 9863, 9865-9867,

Rule #	Mapping/Translation Rules
	9869-9876, 9891, 9895, 9896, 9897, 9898, 9910, 9911, 9920, 9931, 9940, 9945, 9946, 9948, 9950, 9961-9967, 9975, 9980, 9982, 9983, 9985, 9986, 9989, 9991, 9992), Set Summary Stage 2018 [#764] = “7”.
2 (AJCC 8)	IF both **Abstract** AJCC TNM8 Clin Stage Group [#1004] code value = (“0” or “0A” or “0IS”) AND **Abstract** AJCC TNM8 Path Stage Group [#1014] code value = (“0” or “0A” or “0IS”)) **OR** IF **Abstract** AJCC TNM8 Clin Stage Group [#1004] code value = (“0” or “0A” or “0IS”) AND (AJCC TNM8 Path Stage Group [#1014] “99”) **OR** IF **Abstract** AJCC TNM8 Clin Stage Group [#1004] is “99” AND (AJCC TNM8 Path Stage Group [#1014] code value = (“0” or “0A” or “0IS”) Set Summary Stage 2018 [#764] = “0”.
3 (AJCC 8)	If the **Abstract** Summary Stage 2018 [#764] is blank/empty: IF **Abstract** AJCC8 TNM Clin M [#1003] code value begins with “cM1” or "pM1" **OR** **Abstract** AJCC TNM8 Path M [#1013] code value begins with "cM1" or "pM1”, Set Summary Stage 2018 [#764] = “7”.

4 (AJCC 8)	If the **Abstract** Summary Stage 2018 [#764] is blank/empty:
	If (**Abstract** AJCC TNM8 Clin T [#1001] = “cT1” or “pT1” and AJCC TNM8 Clin N [#1002] = “cN0” and AJCC TNM8 Clin M [#1003]= “cM0” or "cM0(i+)") AND [(**Abstract** AJCC TNM8 Path Stage T [#1011] = “pT1” or "cT1" and AJCC TNM8 Path N [#1012]= “pN0” or "cN0" and AJCC TNM8 Path M [#1013] is (“cM0”, or “cM0(i+)”) = "cM0" or "cM0(i+)")]
	OR
	If (**Abstract** AJCC TNM Clin T [#1001] = “cT1” or “pT1” and AJCC TNM Clin N [#1002] = “cN0” and AJCC TNM Clin M [#1003] = “cM0”) and [(**Abstract** AJCC TNM Path Stage T [#1011] = blank and AJCC TNM Path N [#1012] = blank and AJCC TNM Path M [#1013] = blank]
	OR
	If (**Abstract** AJCC TNM8 Clin T [#1001] = blank and AJCC TNM8 Clin N [#1002] = blank and AJCC TNM8 Clin M [#1003]= blank and [(**Abstract** AJCC TNM8 Path Stage T [#1011] = “pT1” or "cT1" and AJCC TNM8 Path N [#1012]= “pN0” or "cN0" and AJCC TNM8 Path M [#1013] is (“cM0”, or “cM0(i+)”)]
	Set Summary Stage 2018 [#764] = “1”.

	Summary Stage 2018 [#764] for specific cancers (bladder, melanoma, skin)
5 (AJCC8)	If the **Abstract** Summary Stage 2018 [#764] is blank/empty AND the **Abstract** Primary Site [#400] code value = “C619” (Prostate), use the table identified within the rule to set Summary Stage 2018 [#764].
5.a (AJCC8)	If the **Abstract** AJCC TNM8 Clin T [#1001], AJCC TNM Clin N [#1002], and AJCC TNM8 Clin M [#1003] match a row in the TRANS_STAGE_PROSTATE_AJCC8_CLIN_CDA Table, Set Summary Stage 2018[#764] = the corresponding SEERSummStg2018 value in the same row.
5.b (AJCC8)	If the **Abstract** AJCC TNM8 Path T [#1011], AJCC TNM8 Path N [#1012], and TNM8 Path M [#1013] match a row in the **TRANS_STAGE_PROSTATE_AJCC8_PATH_CDA** Table, and the corresponding Summary Stage 2018 [#764] is **HIGHER** than the value (excluding “8” or “9”) for the **Abstract** Summary Stage 2018 (set during Step 5.a), Set Summary Stage 2018 [#764] = the corresponding SEERSummStg2018 value in the same row.
6 (AJCC8)	If the **Abstract** Summary Stage 2018 [#764] is blank/empty AND the **Abstract** Primary Site [#400] code value = “C670-C679” (Bladder), use the table identified within the rule to set Summary Stage 2018 [#764]:
6.a (AJCC8)	If the **Abstract** AJCC TNM8 Clin T [#1001], AJCC TNM8 Clin N [#1002], and AJCC TNM8 Clin M [#1003] match a row in the **TRANS_STAGE_BLADDER_AJCC8_CLIN_CDA** Table, Set Summary Stage 2018 [#764] to be equal the corresponding SEERSummStg2018 value in the same row.

Rule #	Mapping/Translation Rules
6.b (AJCC8)	(If the **Abstract** AJCC TNM8 Path T [#1011], AJCC TNM8 Path N [#1012], and TNM8 Path M [#1013] match a row in the **TRANS_STAGE_BLADDER_AJCC8_PATH_CDA** Table and the corresponding Summary Stage 2018 [#764] is **HIGHER** than the value (excluding "8" or "9") for the **Abstract** Summary Stage 2018 (set during Step 6.a), Set Summary Stage 2018 [#764] = the corresponding SEERSummStg2018 value in the same row.
7 (AJCC8)	If the **Abstract** Summary Stage 2018 [#764] is blank/empty AND the **Abstract** Histology [#522] code value = "8720-8790" (Melanoma), use the table identified within the rule to set Summary Stage 2018 [#764]:
7.a (AJCC8)	If the **Abstract** AJCC TNM8 Clin T [#1001], AJCC TNM8 Clin N [#1002], and AJCC TNM8 Clin M [#1003] match a row in the **TRANS_STAGE_MELANOMA_AJCC8_CLIN_CDA** Table, Set Summary Stage 2018 [#764} to be equal the corresponding SEERSummStg2018 value in the same row.
7.b (AJCC8)	(If the **Abstract** AJCC TNM8 Path T [#1011], AJCC TNM8 Path N [#1012], and TNM8 Path M [#1013] match a row in the **TRANS_STAGE_MELANOMA_AJCC8_PATH_CDA** Table and the corresponding Summary Stage 2018 [#764] is **HIGHER** than the value (excluding "8" or "9") for the **Abstract** Summary Stage 2018 (set during Step 7.a), Set Summary Stage 2018 [#764] = the corresponding SEERSummStg2018 value in the same row.
8	If the **Abstract** Summary Stage 2018 [#764] is blank/empty, set **Abstract** Summary Stage 2018= "9". (Note: Summary Stage 2018 will most likely be available on the cancer registry submitted abstract for these cases.)
9	Leave Summary Stage 2000 [#759] blank

RX Summ--Surg Prim Site [#1290]

RX Hosp--Surg Prim Site [#670]

RX Date Surg [#1200]

RX Date Surg Flag [#1201]

RX Date Mst Defn Srg [#3170]

RX Date Mst Defn Srg Flag [#3171]

Text--DX Proc--Op [#2560]

RX Text--Surgery [#2610]

Reason for No Surgery [#1340]

Note1:	The Cancer Directed Procedure table (from VCU) has been developed that lists all of the cancer directed surgeries. Each of the surgery codes have been linked to the appropriate ICD-O-3 topography (site) codes. (Procedures that are routinely performed for the cancer site.)
Note 2:	When a CDA document has more than one cancer diagnosis entry, eMaRC will create a separate abstract for each cancer diagnosis entry. eMaRC will write a WARNING message to the processing log to indicate that multiple abstracts have been created representing the multiple cancer diagnoses due to the fact that linkage and coding of procedures, treatment, and results for each of the multiple cancer diagnoses could possibly be incorrect and may warrant manual review (either within eMaRC Plus or the central registry software).

Note3:	In dermatology settings, you may receive CDA documents that have more than one melanoma diagnosis or a combination of a melanoma and a non-reportable skin cancer. eMaRC will use the most extensive procedure listed in the CDA report because the melanoma diagnosis can reasonably be expected to have had the most extensive procedure.
Note4:	Not all central registries collect RX Hosp--Surg Prim Site [#670]. eMaRC will always populate RX Summ--Surg Prim Site [#1290] and may also populate RX Hosp--Surg Prim Site where it is able.
Note5:	Some vendors will include all procedures past and present, whether performed by the submitting provider or some other provider (including hospital).

Rule #	Mapping/Translation Rules
Note A	For each procedure code in the **Procedures Section**, perform the following steps. Whenever "end of processing for that procedure code" is indicated, return to beginning of this process for next procedure code. When all of the procedure codes have been processed, continue with "Final steps for processing—Step D".
A	Determine if the Procedure meets criteria for use.
A.1	No Procedure Date [#1200] OR no Diagnosis Date [#390].
A.1.a	If the Procedure Code Date is Null or the Diagnosis Date is Null: 4. Do not populate RX Summ--Surg Prim Site or RX Hosp--Surg Prim Site, RX Date Surg or Date of Most Definitive Surgical Resection of the Primary Site. 5. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:"* and "*OrigText:"* preceding the appropriate data. 6. Record the following message into the Processing Log: "*No procedure date was provided for the procedure code [ ] or no diagnosis date for the cancer is available.*" End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, **continue with Final Steps, Step D, below.**
A.2	If Surgery (Start Date) or Diagnosis Date is partial
A.2.a	If only the year is provided AND if the Surgery (Start) Date Year is before the Diagnosis Date, or more than one year after the Diagnosis Date: 1. Do not write a message into the Processing Log. 2. Do not populate any NAACCR abstract surgery field. End of processing for that Surgery.
A.2.b	If only the year is provided AND If the Surgery (Start) Date Year is equal to or one year after the Diagnosis Date: **continue with Populate: RX Summ--Surg Prim Site, Step B, below.**
A.2.c	If month and year are provided, consider the missing date component to be equal to the known date component AND if the Surgery (Start Date) is more than one year after the cancer diagnosis date: 1. Record the following message to the Processing Log, "*Procedure [ ] is more than one year after the cancer diagnosis date.*" 2. Do not populate any NAACCR abstract surgery field. End of processing for that Surgery.

Rule #	Mapping/Translation Rules
A.2.d	If month and year are provided, consider the missing date component to be equal to the known date component AND If the Surgery (Start) Date is less than or equal to one year after the cancer diagnosis date, **continue with Populate: RX Summ--Surg Prim Site, Step B, below.**
A.3	Not a Cancer-Directed Procedure - for both RX Summ--Surg Prim Site [#1290] and RX Hosp--Surg Prim Site [#670].
A.3.a	If the procedure code **is not in** the Cancer Directed Procedure Table or is a nullFlavor: 1. Do not populate RX Summ--Surg Prim Site or RX Hosp--Surg Prim Site, RX Date Surg or Date of Most Definitive Surgical Resection of the Primary Site. 2. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:"* and "*OrigText:"* preceding the appropriate data. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue with Final Steps, Step D, below.
A.4	Cancer Directed Procedure before the Diagnosis Date - for both RX Summ--Surg Prim Site [#1290] and RX Hosp--Surg Prim Site [#670]
A.4.a	IF procedure code is the Cancer Directed Procedure Table AND the date of the procedure is before the diagnosis date NOTE: a * in the primary site column is a wildcard that matches all values in for NAACCR primary site: 1. Do not populate RX Summ--Surg Prim Site or RX Hosp--Surg Prim Site, RX Date Surg or Date of Most Definitive Surgical Resection of the Primary Site. 2. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue with Final Steps, Step D, below.
A.5	Cancer Directed Procedure is On or After Diagnosis Date and Primary Site DOES NOT MATCH any of the sites submitted in the CDA Document - for both RX Summ--Surg Prim Site [#1290] and RX Hosp--Surg Prim Site [#670]
A.5.a	Using the Cancer Directed Procedure Table, If the primary site column value for the procedure code **does not** match the translated (ICDO-3) primary site code values: 1. Do not populate RX Summ--Surg Prim Site or RX Hosp--Surg Prim Site, RX Date Surg or Date of Most Definitive Surgical Resection of the Primary Site. 2. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. 3. Record the following message into the Processing Log: *Procedure [x] not mapped because it is not included in the Site-Specific Procedure Translation table (PROCEDURETRANSLATION) for the primary site.* End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue with Final Steps, Step D, below.
B	Populate: RX Summ--Surg Prim Site [#1290] using the criteria in sequence below (Cancer Directed Procedure is On or After Diagnosis Date and primary site MATCHES the site submitted in the CDA Document.)

Rule #	Mapping/Translation Rules
B.1	Using the Cancer Directed Procedure Table, If the primary site column value for the procedure code **matches** the translated (ICDO-3) primary site code value, and the RX Summ--Surg Prim Site code **is blank/null:** 6. Populate RX Summ--Surg Prim Site with the translated procedure code 7. Populate RX Date Surg with the date associated with this procedure code 8. Populate Date of Most Definitive Surgical Resection of the Primary Site [#3170] with the date associated with this procedure code. 9. Populate Reason for No Surgery [#1340] with "0" 10. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. Select next procedure and process starting with rule A.1. If no more procedures, continue with Populate RX Hosp--Surg Prim Site, Step C, below.
B.2	Using the Cancer Directed Procedure Table, If the primary site column value for the procedure code **matches** the translated (ICDO-3) primary site code value, AND the new FORDS code **is more extensive*** than the existing RX Summ--Surg Prim Site code: 6. Replace the RX Summ--Surg Prim Site code with this procedure code. 7. Replace the Date of Most Definitive Surgical Resection of the Primary Site with the date associated with this procedure code. 8. If the Procedure Date for this procedure is earlier than the RX Date Surg [#1200], replace the RX Date Surg with this procedure date. 9. Populate Reason for No Surgery [#1340] with "0". 10. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive. Select next procedure and process starting with rule A.1. If no more procedures, continue with Populate RX Hosp--Surg Prim Site, Step C, below.
B.3	Using the Cancer Directed Procedure Table, If the primary site column value for the procedure code matches the translated (ICDO-3) primary site code value, AND the new FORDS code is **less extensive*** than the existing RX Summ--Surg Prim Site code: 6. Do not populate RX Summ--Surg Prim Site. 7. Do not populate Date of Most Definitive Surgical Resection of the Primary Site 8. If the Procedure Date for this procedure is earlier than the RX Date Surgery [#1200], replace the RX Date Surgery with this procedure date. 9. Append corresponding DisplayName and Original Text to Text--DX Proc--Op [#2560] and RX Text--Surgery [#2610], consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. 10. Record the following message into the Processing Log: *A procedure was submitted for this cancer that is less extensive than the RX Summ--Surg Prim Site code.**Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive. Select next procedure and process starting with rule A.1. If no more procedures, continue with Populate RX Hosp--Surg Prim Site, Step C, below.
C	Populate RX Hosp--Surg Prim Site using the criteria in sequence below to determine whether the procedure was performed at the submitting facility. Note: The CDA surgery code should have already passed the criteria above (A.1 - A.4) (have a date after the Diagnosis Date [#390], must be cancer-directed and the translated site must match the site in the Cancer Directed Surgery Table.)
C.1	Using Provider NPI
C.1.a	If no provider NPI is recorded for the procedure used to populate RX Summ--Surg Prim Site, continue with next criteria C.2, below.

Rule #	Mapping/Translation Rules
C.1.b	If the provider NPI number for the procedure is the NOT the same as the provider NPI number for the encounter, continue with next criteria C.2, below.
C.1.c	If the provider NPI number for the procedure is the same as the provider NPI number for the encounter AND the new FORDS code is **MORE extensive*** than the existing RX Hosp--Surg Prim Site code: 1. Replace the RX Hosp--Surg Prim Site code with current code. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue with Final Steps, Step D, below. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
C.1.d	If the provider NPI number for the procedure is the same as the provider NPI number for the encounter AND the new FORDS code is **LESS extensive*** than the existing RX Hosp--Surg Prim Site code: 1. Do not populate RX Hosp--Surg Prim Site. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue with Final Steps, Step E, below. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
C.1.e	End of processing for this procedure code
C.2	No Provider NPI, Using provider organization NPI number
C.2.a	If no provider **organization** NPI number, continue with next criteria C.3, below.
C.2.b	If the provider **organization** NPI number within the procedure is the NOT the same as the provider **organization** NPI number for the encounter, continue with next criteria C.3, below.
C.2.c	If the provider **organization** NPI number within the procedure is the same as the provider **organization** NPI number for the encounter AND the new FORDS code is **MORE extensive*** than the existing RX Hosp--Surg Prim Site code: 1. Replace the RX Hosp--Surg Prim Site code with this procedure code. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue with Final Steps, Step E, below. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
C.2.d	If the provider **organization** NPI number within the procedure is the same as the provider **organization** NPI number for the encounter AND the new FORDS code is **LESS extensive*** than the existing RX Hosp--Surg Prim Site code: 1. Do not replace the RX Hosp--Surg Prim Site code. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue with Final Steps, Step D, below. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
C.3	No Provider NPI or Provider Organization NPI, Use provider organization name if present
C.3.a	If no provider organization **name**, continue with next criteria C.4, below.

Rule #	Mapping/Translation Rules
C.3.b	If the provider organization **name** within the procedure is the NOT the same as the provider organization **name** for the encounter, continue with next criteria C.4, below.
C.3.c	If the provider organization **name** within the procedure is the same as the provider organization **name** for the encounter AND the new FORDS code is **MORE extensive*** than the existing RX Hosp--Surg Prim Site code: 1. Replace the RX Hosp--Surg Prim Site code with this procedure code. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue with Final Steps, Step D, below. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
C.3.d	If the provider organization **name** within the procedure is the same as the provider organization **name** for the encounter AND the new FORDS code is **LESS extensive** than the existing RX Hosp--Surg Prim Site code: 1. Do not Replace the RX Hosp--Surg Prim Site code with this procedure code. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue with Final Steps, Step D, below. *Use the Surgery Hierarchy Table to determine which FORDS code is more extensive or less extensive.
C.4	No Provider NPI, Provider Organization NPI or Provider Organization Name
C.4.a	If none of the previous criteria (D1 - D3) have been met (i.e., it can't be determined that the procedure has been performed by the reporting facility/provider): 1. Do not populate NAACCR RX Hosp--Surg Prim Site. End of processing for that procedure code. Select next procedure and process starting with rule A.1. If no more procedures, continue with Final Steps, Step D, below.
D-Final Steps	Final steps for processing Procedures Section.
D.1	After processing all procedure codes in the Procedures Section: If the RX Summ--Surg Prim Site is blank/empty, RX Summ--Surg Prim Site to be "99" (Unknown)
D.2	After processing all procedure codes in the Procedures Section: If the RX Hosp--Surgery is blank/empty, Set RX Hosp--Surgery to be "99" (Unknown)
E	Populate RX Date Surgery Flag [#1201]
E.1	If RX Summ--Surg Prim Site is (01 - 98) and RX Date Surg is populated, leave RX Date Surg Flag blank/empty.
E.2	If RX Summ--Surg Prim Site is "99" and RX Date Surg is blank/empty, then set RX Date Surg Flag to the value of "10 -No information whatsoever can be inferred from this exceptional value (e.g., unknown if any surgical procedure was performed)."
F	Populate Date of Most Definitive Surgical Resection of the Primary Site Flag [#3171]
F.1	If RX Summ--Surg Prim Site is populated with a value of (01 - 98), and Date of Most Definitive Surgical Resection of the Primary Site is populated, leave RX Date Surg Flag blank/empty.

Rule #	Mapping/Translation Rules
F.2	If RX Summ--Surg Prim Site is populated with a value of (01 - 98), and Date of Most Definitive Surgical Resection of the Primary Site is blank/empty, then set RX Date Surg Flag to the value of “12- A proper value is applicable but not known. This event occurred but the date is unknown (e.g., surgery was performed but date is unknown).”
F.3	If RX Summ--Surg Prim Site is "99" and Date of Most Definitive Surgical Resection of the Primary Site is blank/empty, then set Date of Most Definitive Surgical Resection of the Primary Site Flag to the value of “10 -No information whatsoever can be inferred from this exceptional value (e.g., unknown if any surgical procedure was performed).”
G.	Set Reason for No Surgery [#1340]
G.1	IF RX Date Surg Flag [#1201] = blank/empty THEN set Reason For No Surgery [#1340] = 0.
G.2	ELSE IF RX Date Surg Flag [#1201] = 10, THEN set Reason For No Surgery [#1340] = 9.
G.3	ELSE Reason For No Surgery [#1340] = 1.
H	Text--DX Proc--Op [#2560] and then RX Text--Surgery [#2610]
H.1	Append Procedures Section, Narrative Text to NAACCR Text--DX Proc--Op [#2560] and then RX Text--Surgery [#2610], removing carriage returns/line feeds. (Text should run over these two NAACCR fields, in order, if there is more than 1000 characters of text.)
I	Special Processing for Melanoma Diagnosis
I.1	If the cancer diagnosis histology code is the ICD-O-3 Histologic Type codes of 8720 - 8790) and the Problems Section contains one or more non-melanoma invasive or *in situ* skin cancer codes: ICD-9-CM neoplastic skin codes: 173.x, 198.2, 216.x, 232.x, 238.2, 239.2 ICD-10-CM neoplastic skin codes: C44.x, C792. D04.x, C17.x, D22.x, D23.x, D48.5, D49.2 Record the following message to the processing log: "*The procedure assigned to the melanoma diagnosis may have actually been performed on a different non-reportable skin cancer.*"
J	Special Processing for Hematopoietic Diagnosis
J.1	If diagnosis date year is 2018 AND Primary Site = (C420, C421, C423, C424) OR HistTypeICDO3 = (9727,9733,9741-9742,9764-9809,9832,9840-9931,9945-9946,9950-9967,9975-9992), Set RX-Hosp Surgery of Primary Site (#670) = "98" Set RX-Summ Surgery of Primary Site (#1290) = “98”
Z	END of processing for Coded Results Section and Procedures Section
Note 5:	Some vendors will include all procedures past and present, whether performed by the submitting provider or some other provider (including hospital).

Radiation Therapy

Note: This is the first step for processing Radiation Therapy in the CDA document. eMaRC determines which set of rules (below) to use based on CDA Diagnosis Date.

Rule #	Mapping/Translation Rules
1	If the CDA Diagnosis Date is 2017 or earlier, use “Radiation Regional Rx Modality [#1570] (2017 and Earlier)”
2	If the CDA Diagnosis Date is 2018+, use “Radiation RX Modality Phase 1 [#1506] (2018+)”

Rad--Regional RX Modality [#1570] (2017 and earlier)

Rad--Boost RX Modality [#3200] (2017 and earlier)

RX Hosp--Radiation [#690] (2017 and earlier)

RX Summ--Radiation [#1360] (2017 and earlier)

RX Date Radiation [#1210]

RX Date Radiation Flag [#1211]

Reason for No Radiation [#1430]

RX Text--Radiation (Beam) [#2620]

RX Text--Radiation Other [#2630]

Phase I Radiation Treatment Modality [#1506] (2018+)

Note 1	The Radiation Translation table, RADIATIONTRANSLATION (from VCU's Procedure Translation table), has been developed that lists all of the Radiation Oncology procedures. (pre-2018 diagnosis dates)
Note 2	When a CDA document has more than one cancer diagnosis entry, eMaRC will create a separate abstract for each cancer diagnosis entry. eMaRC will write a WARNING message to the processing log to indicate that multiple abstracts have been created representing the multiple cancer diagnoses due to the fact that linkage and coding of procedures, treatment, and results for each of the multiple cancer diagnoses could possibly be incorrect and may warrant manual review (either within eMaRC Plus or the central registry software).
Note 3	Not all central registries collect RX Hosp--Radiation [#690]. eMaRC will always populate RX Summ--Radiation [#1360] and may also populate RX Hosp--Radiation where it is able.
Note 3	Some vendors will include all radiation therapy, past and present, whether performed by the submitting provider or some other provider (including hospital).
Note 5	For each radiation code in the CDA Document **Radiation Oncology Section**, perform the following steps. Whenever “end of processing for that radiation code” is indicated, return to beginning of this process for next radiation code. When all of the radiation codes have been processed, continue with “Step F-Final Steps”.
Note 6	Rad--Regional Dose: cGy [#1510] and Rad--Boost Dose cGy [#3210] are not processed by eMaRC because they are not required elements by SEER or NPCR. Decisions on whether to use the cGy associated with the chosen Treatment code or to calculate a sum of all cGy will be needed.

Rad--Regional RX Modality [#1570]

RX Text--Radiation (Beam) [#2620]

RX Text--Radiation Other [#2630]

Radiation Therapy for cases diagnosed 2017 and Earlier

Rule #	Mapping/Translation Rules
	For each **Radiation Regional Treatment Modality** entry in the Radiation Oncology Section in the CDA Document, perform the following steps.
A	Radiation Regional Treatment Modality **Date** or Diagnosis Date [#390] are Null
A.1	If the Radiation Regional Treatment Modality Date is Null or the Diagnosis Date is Null: 1. Do not populate Rad--Regional RX Modality.

Rule #	Mapping/Translation Rules
	a. If Radiation Regional Treatment Modality code is null/missing, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Radiation Regional Treatment Modality code is populated: i. Append DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data Record the following message in the Processing Log: "*No Radiation Regional Treatment Modality Date was provided or no Diagnosis Date is for the cancer is available.*" End of processing for that Radiation Regional Treatment Modality code. Select next radiation Regional Treatment Modality and process starting with rule A.1. If no more Radiation Regional Treatment Modality codes, continue with **Radiation Boost RX Modality rules**, below.
B	If Radiation Regional Treatment Modality Date or Diagnosis Date is partial
B.1	If only the year is provided AND if the Radiation Regional Treatment Modality Date is before the Diagnosis Date, or more than two years after the Diagnosis Date: 1. Do not populate Rad--Regional RX Modality. a. If Radiation Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Radiation Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Radiation Regional Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Radiation Regional Treatment Modality code. Select next Radiation Regional Treatment Modality and process starting with rule A.1. If no more Radiation Regional Treatment Modality codes, continue with **Radiation Boost RX Modality rules**, below.
B.2	If only month and year are provided, consider the missing date component to be equal to the known date component AND if the Radiation Regional Treatment Modality Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: 1. Do not populate Rad--Regional RX Modality. a. If Radiation Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Radiation Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Radiation Regional Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Radiation Regional Treatment Modality code. Select next Radiation Regional Treatment Modality and process starting with rule A.1. If no more Radiation Regional Treatment Modality continue with **Radiation Boost RX Modality rules**, below.
B.3	If only month and year are provided, consider the missing date component to be equal to the known date component AND

Rule #	Mapping/Translation Rules
	If the Radiation Regional Treatment Modality Date is less than or equal to two years after the cancer diagnosis date, **continue with C:** Process Radiation Oncology Section/Radiation **Regional Treatment Modality rule, below.**
B.4	If only the year is provided AND If the Radiation Regional Treatment Modality Date Year is equal to or two years after the Diagnosis Date**, continue with C:** Process Radiation Oncology Section/Radiation **Regional Treatment Modality rules,** below.
C	Process Radiation Oncology Section/Radiation **Regional Treatment Modality**
C.1	Translate the Radiation **Regional Treatment Modality** code to the NAACCR Rad--Regional RX Modality [#1570] code using the table RADIATIONTRANSLATION.
C.1.a	Not a Radiation Oncology code
C.1.b	If the CDA radiation code is nullFlavor or missing: 1. Do not populate Rad--Regional RX Modality. 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). End of processing for that Radiation Regional Treatment Modality code. Select next Radiation Regional Treatment Modality code and process starting with rule A.1. If no more Radiation Regional Treatment Modality codes, continue with **Radiation Boost RX Modality rules**, below.
C.1.c	If the Radiation Regional Treatment Modality code **is not in** RADIATIONTRANSLATION: 1. Do not populate Rad--Regional RX Modality. 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. Record the following message in the Processing Log: "*A Radiation Regional Treatment Modality code was submitted that is not in the RADIATIONTRANSLATION table*." End of processing for that Radiation Regional Treatment Modality code. Select next Radiation Regional Treatment Modality and process starting with rule A.1. If no more Radiation Regional Treatment Modality codes continue with **Radiation Boost RX Modality rules**, below.
C.2	Radiation Regional Treatment Modality before or more than 2 years after the Diagnosis Date [#390]
C.2.a	If Radiation Regional Treatment Modality code is in RADIATIONTRANSLATION Table AND the date of the radiation is before the diagnosis date: 1. Do not populate Rad--Regional RX Modality. 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). Record the following message in the Processing Log: "*A Radiation Regional Treatment Modality code was submitted that occurred before* or more than 2 years after *the diagnosis date*." End of processing for that Radiation Regional Treatment Modality code. Select next Radiation Regional Treatment Modality and process starting with rule A.1. If no more Radiation Regional Treatment Modality continue with **Radiation Boost RX Modality rules**, below.
C.3	Radiation Regional Treatment Modality date on or within two years of Diagnosis Date and Primary Site [#400] DOES NOT MATCH the site submitted in the CDA Document

Rule #	Mapping/Translation Rules
C.3.a	Using RADIATIONTRANSLATION, If the primary site column value for the Radiation Regional Treatment Modality code **does not** match the translated (ICDO-3) primary site code value **NOTE:** a * in the primary site column is a wildcard that matches all values in for NAACCR primary site: 1. Do not populate Rad--Regional RX Modality 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). Record the following message in the Processing Log: "*A Radiation Regional Treatment Modality code was submitted that does not correspond to the primary site*." End of processing for Radiation Regional Treatment Modality code. Select next Radiation Regional Treatment Modality and process starting with rule A.1. If no more Radiation Regional Treatment Modality codes continue with **Radiation Boost RX Modality rules**, below.
C.4	Populate: Rad--Regional RX Modality [#1570] using the criteria in sequence below (Cancer Directed Radiation on or After Diagnosis Date)
C.4.a	IF NAACCR (translated) Rad--Regional RX Modality code is blank/empty: 1. Populate Rad--Regional RX Modality code with the translated Radiation Regional Treatment Modality code. 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. End of processing for that Radiation Regional Treatment Modality code. Select next Radiation Regional Treatment Modality and process starting with rule A.1. If no more Radiation Regional Treatment Modality codes continue with **Radiation Boost RX Modality rules**, below.
C.4.b	IF NAACCR (translated) Rad--Regional RX Modality code **NOT** blank/empty and is the SAME as the translated Radiation Regional Treatment Modality code: 1. Do Not Populate Rad--Regional RX Modality code with the translated Radiation Regional Treatment Modality code. 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). End of processing for that Radiation Regional Treatment Modality code. Select next Radiation Regional Treatment Modality and process starting with rule A.1. If no more Radiation Regional Treatment Modality codes continue with **Radiation Boost RX Modality rules**, below.
C.4.c	IF Rad--Regional RX Modality code is **NOT** blank/empty and the Translated Radiation Regional Treatment Modality code is different than the Rad--Regional RX Modality code: 1. Do not replace Rad--Regional RX Modality, 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. Record the following message in the Processing Log: "*Radiation Oncology – More than one radiation Regional RX therapy code was submitted.*" End of processing for that Radiation Regional Treatment Modality code. Select next Radiation Regional Treatment Modality and process starting with rule A.1. If no more Radiation Regional Treatment Modality codes continue with **Radiation Boost RX Modality rules**, below.

Rad--Boost RX Modality [#3200]

RX Text--Radiation (Beam) [#2620]

RX Text--Radiation Other [#2630]

Rule #	Mapping/Translation Rules
	For each **Radiation Boost RX Modality** entry in the Radiation Oncology Section in the CDA Document, perform the following steps.
A	Radiation Boost RX Modality **Date** or Diagnosis Date [#390] are Null
A.1	If the Radiation Boost RX Modality Date is Null or the Diagnosis Date is Null: 2. Do not populate Rad--Boost RX Modality. a. If Radiation Boost RX Modality code is null/missing, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Radiation Boost RX Modality code is populated: i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data Record the following message in the Processing Log: "*No Radiation Boost RX Modality Date was provided, or no Diagnosis Date is for the cancer is available.*" End of processing for that Radiation Boost RX Modality code. Select next radiation Boost RX Modality and process starting with rule A.1. If no more Radiation Boost RX Modality codes, continue with Populate Radiation Regional Treatment Modality from entries in the Procedure Section, below.
B	If Radiation Boost RX Modality Date or Diagnosis Date is partial
B.1	If only the year is provided AND if the Radiation Boost RX Modality Date is before the Diagnosis Date, or more than two years after the Diagnosis Date: 2. Do not populate Rad--Boost RX Modality. a. If Radiation Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Radiation Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Radiation Boost RX Modality is more than two years after the cancer diagnosis date.*" End of processing for that Radiation Boost RX Modality code. Select next Radiation Boost RX Modality and process starting with rule A.1. If no more Radiation Regional Boost RX codes, Populate Radiation Regional Treatment Modality from entries in the Procedure Section, below.
B.2	If only month and year are provided, consider the missing date component to be equal to the known date component AND if the Radiation Boost RX Modality Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: 2. Do not populate Rad--Boost RX Modality.

Rule #	Mapping/Translation Rules
	a. If Radiation Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Radiation Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Radiation Boost RX Modality is more than two years after the cancer diagnosis date.*" End of processing for that Radiation Boost RX Modality code. Select next Radiation Boost RX Modality and process starting with rule A.1. If no more Radiation Regional Boost RX codes, Populate Radiation Regional Treatment Modality from entries in the Procedure Section, below.
B.3	If only month and year are provided, consider the missing date component to be equal to the known date component AND If the Radiation Boost RX Modality Date is less than or equal to two years after the cancer diagnosis date, **continue with C:** Process Radiation Oncology Section/Radiation **Boost RX Modality, below.**
B.4	If only the year is provided AND If the Radiation Boost RX Modality Date Year is equal to or two years after the Diagnosis Date**, continue with C:** Process Radiation Oncology Section/Radiation **Boost RX Modality,** below.
C	Process Radiation Oncology Section/Radiation **Boost RX Modality**
C.1	Translate the Radiation **Boost RX Modality** code to the NAACCR Rad--Boost RX Modality [#3200] code using the table RADIATIONTRANSLATION.
C.1.a	Not a Radiation Oncology code
C.1.b	If the CDA radiation code is nullFlavor or missing: 1. Do not populate Rad--Boost RX Modality. 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). End of processing for that Radiation Boost RX Modality code. Select next Radiation Boost RX Modality code and process starting with rule A.1. If no more Radiation Regional Boost RX codes, Populate Radiation Regional Treatment Modality from entries in the Procedure Section, below.
C.1.c	If the Radiation Boost RX Modality code **is not in** RADIATIONTRANSLATION: 1. Do not populate Rad--Boost RX Modality. 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. Record the following message in the Processing Log: "*A Radiation Boost RX Modality code was submitted that is not in the RADIATIONTRANSLATION table*." End of processing for that Radiation Boost RX Modality code. Select next Boost RX Treatment Modality and process starting with rule A.1. If no more Radiation Regional Boost RX codes, Populate Radiation Regional Treatment Modality from entries in the Procedure Section, below.
C.2	Radiation Boost RX Modality **Date** before or more than 2 years after the Diagnosis Date [#390]

Rule #	Mapping/Translation Rules
C.2.a	If Radiation Boost RX Modality code is in RADIATIONTRANSLATION Table AND the Radiation Boost RX Modality Date is before the diagnosis date: 1. Do not populate Rad--Boost RX Modality. 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). Record the following message in the Processing Log: "*A Radiation Boost RX Modality code was submitted that occurred before* or more than 2 years after *the diagnosis date*." End of processing for that Radiation Boost RX Modality code. Select next Radiation Boost RX Modality and process starting with rule A.1. If no more Radiation Regional Boost RX codes, Populate Radiation Regional Treatment Modality from entries in the Procedure Section, below.
C.3	Radiation Boost RX Modality date on or within two years of Diagnosis Date and Primary Site [#400] DOES NOT MATCH the site submitted in the CDA Document
C.3.a	Using RADIATIONTRANSLATION, If the primary site column value for the Radiation Boost RX Modality code **does not** match the translated (ICDO-3) primary site code value **NOTE:** a * in the primary site column is a wildcard that matches all values in for NAACCR primary site: 1. Do not populate Rad--Boost RX Modality 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). Record the following message in the Processing Log: "*A Radiation Boost RX Modality code was submitted that does not correspond to the primary site*." End of processing for Radiation Boost RX Modality code. Select next Radiation Boost RX Modality and process starting with rule A.1. If no more Radiation Regional Boost RX codes, Populate Radiation Regional Treatment Modality from entries in the Procedure Section, below.
C.4	Populate: Rad--Boost RX Modality [#3200] using the criteria in sequence below (Cancer Directed Radiation on or After Diagnosis Date)
C.4.a	IF NAACCR (translated) Rad--Boost RX Modality code is blank/empty: 1. Populate Rad--Boost RX Modality code with the translated Radiation Regional Treatment Modality code. 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. End of processing for that Radiation Boost RX Modality code. Select next Radiation Boost RX Modality and process starting with rule A.1. If no more Radiation Regional Boost RX codes, Populate Radiation Regional Treatment Modality from entries in the Procedure Section, below.
C.4.b	IF NAACCR (translated) Rad--Boost RX Modality code **NOT** blank/empty and is the SAME as the translated Radiation Boost RX Modality code: 1. Do Not Populate Rad--Boost RX Modality code with the translated Radiation Boost RX Modality code. 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). End of processing for that Radiation Boost RX Modality code. Select next Radiation Boost RX Modality and process starting with rule A.1 If no more Radiation Regional Boost RX codes, Populate Radiation Regional Treatment Modality from entries in the Procedure Section, below.

Rule #	Mapping/Translation Rules
C.4.c	IF Rad--Boost RX Modality code is **NOT** blank/empty and the Translated Radiation Boost RX Modality code is different than the Rad--Regional RX Modality code: 1. Do not replace Rad--Boost RX Modality, 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. Record the following message in the Processing Log: "*Radiation Oncology – More than one radiation boost RX code was submitted.*" End of processing for that Radiation Boost RX Modality code. Select next Radiation Boost RX Modality and process starting with rule A.1. If no more Radiation Boost RX Modality codes continue with Populate Radiation Regional Treatment Modality from entries in the Procedure Section, below.

Populate Radiation Regional Treatment Modality from entries in the Procedure Section

	For each **Procedure** entry in the Procedure Section in the CDA Document, perform the following steps.
A	Determine whether Procedure code is for Radiation Therapy
A.1	If the procedure code **is not in** RADIATIONTRANSLATION table: 5. Do not populate Rad--Regional RX Modality 6. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other) End of processing for that Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure codes that are for radiation therapy, continue with processing with rules for "Final steps for processing Radiation Oncology Section".
A.2	Using RADIATIONTRANSLATION, If the primary site column value for the Procedure Section/Procedure code **does not** match the translated (ICDO-3) primary site code value **NOTE:** a * in the primary site column is a wildcard that matches all values in for NAACCR primary site: 1. Do not populate Rad--Regional RX Modality 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). Record the following message in the Processing Log: "*A Radiation Regional Treatment Modality code was submitted that does not correspond to the primary site*." End of processing for Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue with processing with rules for "Final steps for processing Radiation Oncology Section".
B	CDA Procedure Section/Procedure **Date** or Diagnosis Date [#390] are Null
B.1	If the CDA Procedure Date is Null or the Diagnosis Date is Null: 5. Do not populate Rad--Regional RX Modality. 6. Append DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data Record the following message in the Processing Log: "*No Radiation Regional Treatment Modality Date was provided, or no Diagnosis Date is for the cancer is available.*" End of processing for that Procedure Section/Procedure code. Select Procedure Section/Procedure code and process starting with rule A.1. If there are no

	more Procedure Section/Procedure codes that are radiation therapy codes, continue processing with rules for “Final steps for processing Radiation Oncology Section”.
C	If Procedure Section/Procedure Date or Diagnosis Date is partial
C.1	If only the year is provided AND if the Procedure Section/Procedure Date is before the Diagnosis Date, or more than two years after the Diagnosis Date: 3. Do not populate Rad--Regional RX Modality. a. If Procedure Section/Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, “*Radiation Regional Treatment Modality is more than two years after the cancer diagnosis date.*” End of processing for that Procedure Section/Procedure code. Select Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy codes, continue processing with rules for “Final steps for processing Radiation Oncology Section”.
C.2	If only month and year are provided, consider the missing date component to be equal to the known date component AND if the Procedure Section/Procedure Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: 3. Do not populate Rad--Regional RX Modality. a. If Procedure Section/Procedure Date Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, “*Radiation Regional Treatment Modality is more than two years after the cancer diagnosis date.*” End of processing for that Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there no more Procedure Section/Procedure codes that are radiation therapy, continue with processing with rules for “Final steps for processing Radiation Oncology Section”.
C.3	If only month and year are provided, consider the missing date component to be equal to the known date component AND If the Procedure Section/Procedure Date is less than or equal to two years after the cancer diagnosis date, **continue with Process Procedure Section/Procedure code,** below.
C.4	If only the year is provided AND If the Procedure Section/Procedure Date Year is less than or equal to two years after the Diagnosis Date**, continue with Process Procedure Section/Procedure code,** below.
D	When Procedure Section/Procedure Date and Diagnosis Date are complete
D1	If the Procedure Section/Procedure Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: 1. Do not populate Rad--Regional RX Modality.

	a. If Procedure Section/Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Radiation Regional Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Procedure Section/Procedure code.
D2	If the Procedure Section/Procedure Date is less than or equal to two years after the cancer diagnosis date, **continue with "Process Procedure Section/Procedure code",** below.
E	Process Procedure Section/Procedure code using the criteria in sequence below (Procedure Section/Procedure code is on or within two years of the Diagnosis Date, Procedure code is in RADIATION TRANSLATION and primary site MATCHES the site submitted in the CDA Document.)
E.1	IF NAACCR (translated) Rad--Regional RX Modality code is blank/empty: 1. Populate Rad--Regional RX Modality code with the translated Procedure Section/Procedure code. 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. End of processing for that Procedure Section/Procedure Code. Select next Procedure Section/Procedure Code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue with processing with rules for "Final steps for processing Radiation Oncology Section".
E.2	IF NAACCR (translated) Rad--Regional RX Modality code **NOT** blank/empty and is the SAME as the translated Procedure Section/Procedure Code: 1. Do Not Populate Rad--Boost RX Modality code with the translated Procedure Section/Procedure Code 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). End of processing for that Procedure Section/Procedure Code. Select next Procedure Section/Procedure Code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue with processing with rules for "Final steps for processing Radiation Oncology Section".
E.3	IF Rad--Regional RX Modality code is **NOT** blank/empty and the Translated Procedure Section/Procedure code is different than the Rad--Regional RX Modality code: 1. Do not replace Rad--Regional RX Modality, 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. Record the following message in the Processing Log: "*Radiation Oncology – More than one radiation regional RX code was submitted.*" End of processing for that Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If no more Procedure Section/Procedure codes continue with processing with rules for "Final steps for processing Radiation Oncology Section".

RX Hosp--Radiation [#690]

RX Summ--Radiation [#1360]

RX Date Radiation [#1210]

RX Date Radiation Flag [#1211]

Reason for No Radiation [#1430]

RX Text--Radiation (Beam) [#2620]

RX Text--Radiation Other [#2630]

F-Final Steps	Final steps for processing Radiation Oncology Section: After processing all Radiation **Regional RX Modality** and Radiation **Boost RX Modality** codes in the Radiation Oncology and Procedures Sections:
F.1	Finalize Radiation **Regional RX Modality** and Radiation **Boost RX Modality** codes
F.1.a	If Rad--Regional RX Modality is empty/blank, set Rad--Regional RX Modality to be "99"
F.1.b	If Rad--Boost RX Modality is empty/blank, set Rad--Boost RX Modality to be "99"
F.2	Finalize RX Summ--Radiation.
F.2.a	If BOTH **Rad--Regional RX Modality** and **Rad--Boost RX Modality** are 99, Set RX Summ--Radiation to be “9” (Unknown if radiation administered).
F.2.b	If EITHER **Rad--Regional RX Modality** OR **Rad--Boost RX Modality** is a value between 20 and 98, set RX Summ--Radiation to be “5” (Radiation, NOS)
F.3	Finalize RX Date Radiation [#1210]
F.3.a	Populate RX Date Radiation [#1210] with the earliest date of Rad--Regional RX Modality, Rad--Boost RX Modality, or Procedures Radiation. Ignore Radiation date(s) that are for Radiation Treatment codes that were excluded by previous rules: “Radiation date is before diagnosis date”; “treatment code is not in RADIATIONTRANSLATION table”; or “Radiation date is for treatment code that does not match the translated (ICDO-3) primary site code value”
F.4	Populate RX Date Radiation Flag [#1211]
F.4.a	If RX Summ--Radiation is (5) and RX Date Radiation is populated, leave RX Date Radiation Flag blank/empty.
F.4.b	If RX Summ--Radiation is "9" and RX Date Radiation is blank/empty, then set RX Date Radiation Flag to the value of ""10-No information whatsoever can be inferred from this exceptional value (e.g., unknown whether any radiation therapy administered).”
F.5	Set Reason for No Radiation [#1430]
F.5.a	IF RX Date Radiation Flag [#1211] = 10 THEN set Reason for No Radiation [#1430] = 9
F.5.b	IF RX Date Radiation Flag [#1211] is not “10” or “11” set Reason for No Radiation [#1430] = 0.
F.6	Narrative Radiation Oncology Section, Section Text
F.6.a	Append Narrative Radiation Oncology Section, Section Text to NAACCR RX Text--Radiation (Beam) [#2620] and RX Text--Radiation Other [#2630], consecutively, removing carriage returns/line feeds. (i.e., text should populate across these two NAACCR fields in the specified order if there is more than 1000 characters of text.)
Z	END of processing for Radiation Therapy Data items (2017 and Earlier)

Phase I Radiation Treatment Modality [#1506] (2018+)

RX Date Radiation [#1210]

RX Date Radiation Flag [#1211]

Reason for No Radiation [#1430]

RX Text--Radiation (Beam) [#2620]

RX Text--Radiation Other [#2630]

Radiation Therapy for Cases diagnosed 2018+

Populate Phase I Radiation Treatment Modality from entries in the Radiation Oncology Section

Rule #	Mapping/Translation Rules
	For each Radiation **Regional** Treatment Modality code in the Radiation Oncology Section in the CDA Document, perform the following steps. Note: Radiation Oncology Section Boost Modality entries will not be processed for cases diagnosed 2018+. This is Phase II treatment and not a required data element.
A	Determine whether Procedure code is for Radiation Therapy
A.1	If the Regional Modality code **is not in** TRANS_RADIATION2018_CDA table: 1. Do not populate Phase I Radiation Treatment Modality 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other) End of processing for that Procedure code. Select next Radiation Oncology Section/Regional Modality code and process starting with rule A.1. If there are no more Regional Modality codes that are for radiation therapy, continue processing with rules for "Populate Phase I Radiation Treatment Modality from entries in the Procedure Section".
A.2	Using TRANS_RADIATION2018_CDA, If the primary site column value for the Radiation Oncology Section/Regional Modality code **does not** match the translated (ICDO-3) primary site code value **NOTE:** a * in the primary site column is a wildcard that matches all values in for NAACCR primary site: 1. Do not populate Phase I Radiation Treatment Modality 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). Record the following message in the Processing Log: "*A Phase I Radiation Treatment Modality code was submitted that does not correspond to the primary site*." End of processing for Radiation Oncology Section/Regional Modality code. Select next Radiation Oncology Section/ Regional Modality code and process starting with rule A.1. If there are no more Radiation Oncology Section/ Regional Modality codes that are radiation therapy, continue processing with rules for "Populate Phase I Radiation Treatment Modality from entries in the Procedure Section".
B	CDA Procedure **Date** or Diagnosis Date [#390] are Null
B.1	If the CDA Procedure Date is Null or the Diagnosis Date is Null: 7. Do not populate Phase I Radiation Treatment Modality. 8. Append DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data

Rule #	Mapping/Translation Rules
	Record the following message in the Processing Log: "*No Phase I Radiation Treatment Modality Date was provided, or no Diagnosis Date is for the cancer is available.*" End of processing for that Radiation Oncology Section/Regional Modality code. Select Radiation Oncology Section/Regional Modality code and process starting with rule A.1. If there are no more Radiation Oncology Section/Regional Modality codes that are radiation therapy codes, continue processing with rules for "Populate Phase I Radiation Treatment Modality from entries in the Procedure Section".
C	If Radiation Oncology Section/Procedure Date or Diagnosis Date is partial
C.1	If only the year is provided AND if the Radiation Oncology Section/Procedure Date is before the Diagnosis Date, or more than two years after the Diagnosis Date: 4. Do not populate Phase I Radiation Treatment Modality. a. If Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Phase I Radiation Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Radiation Oncology Section/Regional Modality code. Select Radiation Oncology Section/Regional Modality code and process starting with rule A.1. If there are no more Radiation Oncology Section/Regional Modality codes that are radiation therapy codes, continue processing with rules for "Populate Phase I Radiation Treatment Modality from entries in the Procedure Section".
C.2	If only month and year are provided, consider the missing date component to be equal to the known date component AND if the Radiation Oncology Section/Procedure Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: 4. Do not populate Phase I Radiation Treatment Modality. a. If Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Phase I Radiation Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Radiation Oncology Section/Regional Modality code. Select next Radiation Oncology Section/Regional Modality code and process starting with rule A.1. If there no more Radiation Oncology Section/Regional Modality codes that are radiation therapy, continue processing with rules for "Populate Phase I Radiation Treatment Modality from entries in the Procedure Section".
C.3	If only month and year are provided, consider the missing date component to be equal to the known date component AND If the Radiation Oncology Section/Procedure Date is less than or equal to two years after the cancer diagnosis date, **continue** processing with rules for **"Process Radiation Oncology Section/ Regional Modality code".**

Rule #	Mapping/Translation Rules
C.4	If only the year is provided AND If the Radiation Oncology Section/Procedure Date Year is less than or equal to two years after the Diagnosis Date**, continue** processing with rules for "**Process Radiation Oncology Section/Regional Modality code"**.
s	When Radiation Oncology Section/Procedure Date and Diagnosis Date are complete
D1	If the Radiation Oncology Section/Procedure Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: a. Do not populate Phase I Radiation Treatment Modality If Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Radiation Regional Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for the Radiation Oncology Section/Regional Modality code.
D2	If the Radiation Oncology Section/Procedure Date is less than or equal to two years after the cancer diagnosis date, **continue with "Process Radiation Oncology Section/Regional Modality code",** below.
	Process Radiation Oncology Section/Regional Modality code
E	Process Radiation Oncology Section/ Regional Modality Code using the criteria in sequence below. (Regional Modality code is on or within two years of the Diagnosis Date, Regional Modality code is in TRANS_RADIATION2018_CDA table and primary site MATCHES the site submitted in the CDA Document.)
E.1	IF NAACCR (translated) Phase I Radiation Treatment Modality code is blank/empty: 1. Populate Phase I Radiation Treatment Modality code with the translated Radiation Oncology Section/Procedure code. 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. End of processing for that Radiation Oncology Section/Regional Modality Code. Select next Radiation Oncology Section/ Regional Modality Code and process starting with rule A.1. If there are no more Radiation Oncology Section/Regional Modality codes that are radiation therapy, continue processing with rules for "Populate Phase I Radiation Treatment Modality from entries in the Procedure Section".
E.2	IF NAACCR (translated) Phase I Radiation Treatment Modality is **NOT** blank/empty and is the SAME as the translated Procedure Code: 1. Do not populate Phase I Radiation Treatment Modality with the translated Procedure Code 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). End of processing for that Radiation Oncology Section/Regional Modality Code. Select next Radiation Oncology Section/Regional Modality Code and process starting with rule A.1. If there are no more Radiation Oncology Section/Regional Modality codes that are radiation therapy, continue processing with rules for "Populate Phase I Radiation Treatment Modality from entries in the Procedure Section".
E.3	IF NAACCR (translated) Phase I Radiation Treatment Modality is **NOT** blank/empty and the Translated Procedure Section/Procedure code is different than the NAACCR (translated)

Rule #	Mapping/Translation Rules
	Phase I Radiation Treatment Modality: 1. Do not replace Phase I Radiation Treatment Modality, 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. Record the following message in the Processing Log: "*Radiation Oncology – More than one Phase I Radiation Treatment Modality code was submitted.*" End of processing for that Radiation Oncology Section/Regional Modality code. Select next Radiation Oncology Section/Regional Modality code and process starting with rule A.1. If no more Radiation Oncology Section/Regional Modality codes continue processing with rules for "Populate Phase I Radiation Treatment Modality from entries in the Procedure Section".

Populate Phase I Radiation Treatment Modality from entries in the Procedure Section

Rule #	Mapping/Translation Rules
	For each **Procedure code** in Procedure Section in the CDA Document, perform the following steps.
A	Determine whether Procedure code is for Radiation Therapy
A.1	If the procedure code **is not in** TRANS_RADIATION2018_CDA table: 1. Do not populate Phase I Radiation Treatment Modality 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other) End of processing for that Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure codes that are for radiation therapy, continue processing with rules for "Final steps for processing Radiation Therapy for cases diagnosed 2018+".
A.2	Using TRANS_RADIATION2018_CDA, If the primary site column value for the Procedure Section/Procedure code **does not** match the translated (ICDO-3) primary site code value **NOTE:** a * in the primary site column is a wildcard that matches all values in for NAACCR primary site: 1. Do not populate Phase I Radiation Treatment Modality 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). Record the following message in the Processing Log: "*A Phase I Radiation Treatment Modality code was submitted that does not correspond to the primary site*." End of processing for Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for "Final steps for processing Radiation Therapy for cases diagnosed 2018+".
B	CDA Procedure Section/Procedure **Date** or Diagnosis Date [#390] are Null
B.1	If the CDA Procedure Date is Null or the Diagnosis Date is Null: 1. Do not populate Phase I Radiation Treatment Modality. 2. Append DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data Record the following message in the Processing Log: "*No Phase I Radiation Treatment Modality Date was provided, or no Diagnosis Date is for the cancer is available.*"

Rule #	Mapping/Translation Rules
	End of processing for that Procedure Section/Procedure code. Select Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy codes, continue processing with rules for "Final steps for processing Radiation Therapy for cases diagnosed 2018+".
C	If Procedure Section/Procedure Date or Diagnosis Date is partial
C.1	If only the year is provided AND if the Procedure Section/Procedure Date is before the Diagnosis Date, or more than two years after the Diagnosis Date: 1. Do not populate Phase I Radiation Treatment Modality. a. If Procedure Section/Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Phase I Radiation Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Procedure Section/Procedure code. Select Procedure Section/Procedure code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy codes, continue processing with rules for "Final steps for processing Radiation Therapy for cases diagnosed 2018+".
C.2	If only month and year are provided, consider the missing date component to be equal to the known date component AND if the Procedure Section/Procedure Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: 5. Do not populate Phase I Radiation Treatment Modality. a. If Procedure Section/Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Phase I Radiation Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If there no more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for "Final steps for processing Radiation Therapy for cases diagnosed 2018+".
C.3	If only month and year are provided, consider the missing date component to be equal to the known date component AND If the Procedure Section/Procedure Date is less than or equal to two years after the cancer diagnosis date, continue processing with rules for **"Process Procedure Section/Procedure code".**

Rule #	Mapping/Translation Rules
C.4	If only the year is provided AND If the Procedure Section/Procedure Date Year is less than or equal to two years after the Diagnosis Date**,** continue processing with rules for "**Process Procedure Section/Procedure code"**.
D	When Procedure Section/Procedure Date and Diagnosis Date are complete
D1	If the Procedure Section/Procedure Date is before the Diagnosis Date or more than two years after the cancer diagnosis date: 1. Do not populate Rad--Regional RX Modality. a. If Procedure Section/Procedure Date is before the diagnosis date, do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). b. If Procedure Section/Procedure Date is more than two years after the Diagnosis Date. i. Append corresponding Date, DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. ii. Record the following message in the Processing Log, "*Radiation Regional Treatment Modality is more than two years after the cancer diagnosis date.*" End of processing for that Procedure Section/Procedure code.
D2	If the Procedure Section/Procedure Date is less than or equal to two years after the cancer diagnosis date, **continue with "Process Procedure Section/Procedure code",** below.
	Process Procedure Section/Procedure code
E	**Process Procedure Section/Procedure code** using the criteria in sequence below (Procedure Section/Procedure code is on or within two years of the Diagnosis Date, Procedure code is in TRANS_RADIATION2018_CDA table and primary site MATCHES the site submitted in the CDA Document.)
E.1	IF NAACCR (translated) Phase I Radiation Treatment Modality code is blank/empty: 1. Populate Phase I Radiation Treatment Modality code with the translated Procedure Section/Procedure code. 2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. End of processing for that Procedure Section/Procedure Code. Select next Procedure Section/Procedure Code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for "Final steps for processing Radiation Therapy for cases diagnosed 2018+".
E.2	IF NAACCR (translated) Phase I Radiation Treatment Modality is **NOT** blank/empty and is the SAME as the translated Procedure Section/Procedure Code: 1. Do Not Populate Rad--Boost RX Modality code with the translated Procedure Code 2. Do not append any information to RX Text--Radiation (Beam) and RX Text--Radiation (Other). End of processing for that Procedure Section/Procedure Code. Select next Procedure Section/Procedure Code and process starting with rule A.1. If there are no more Procedure Section/Procedure codes that are radiation therapy, continue processing with rules for "Final steps for processing Radiation Therapy for cases diagnosed 2018+".
E.3	IF NAACCR (translated) Phase I Radiation Treatment Modality is **NOT** blank/empty and the Translated Procedure Section/Procedure code is different than the NAACCR (translated) Phase I Radiation Treatment Modality: 1. Do not replace Rad--Regional RX Modality,

Rule #	Mapping/Translation Rules
	2. Append corresponding DisplayName and Original Text to RX Text--Radiation (Beam) and RX Text--Radiation (Other), consecutively; with tag "*DispName:*" and "*OrigText:*" preceding the appropriate data. Record the following message in the Processing Log: "*Radiation Oncology – More than one Phase I Radiation Treatment Modality code was submitted.*" End of processing for that Procedure Section/Procedure code. Select next Procedure Section/Procedure code and process starting with rule A.1. If no more Procedure Section/Procedure codes continue processing with rules for "Final steps for processing Radiation Therapy for cases diagnosed 2018+".

Final steps for processing Radiation Therapy for cases diagnosed 2018+

F-Final Steps	Final steps for processing Radiation Oncology Section: After processing all *Phase I Radiation Treatment Modality* codes in the Procedures Sections:
F.1.	If *Phase I Radiation Treatment Modality* is empty/blank, set *Phase I Radiation Treatment Modality* to be "99"
F.2	Finalize RX Date Radiation [#1210]
F.2.a	Populate RX Date Radiation [#1210] with the earliest date of NAACCR (translated) Phase I Radiation Treatment Modality, or Procedures Radiation. Ignore Radiation date(s) that are for Radiation Treatment codes that were excluded by previous rules: "Radiation date is before diagnosis date"; "treatment code is not in TRANS_RADIATION2018_CDA table"; or "Radiation date is for treatment code that does not match the translated (ICDO-3) primary site code value"
F.3	Populate RX Date Radiation Flag [#1211]
F.3.a	If NAACCR (translated) Phase I Radiation Treatment Modality is not "00", "99", blank/empty, leave RX Date Radiation Flag blank/empty.
F.3.b	If NAACCR (translated) Phase I Radiation Treatment Modality is "00, "99", blank/empty and RX Date Radiation is blank/empty, then set RX Date Radiation Flag to the value of ""10-No information whatsoever can be inferred from this exceptional value (e.g., unknown whether any radiation therapy administered)."
F.4	Set Reason for No Radiation [#1430]
F.4.a	IF RX Date Radiation Flag [#1211] = 10 THEN set Reason for No Radiation [#1430] = 9
F.4.b	IF RX Date Radiation Flag [#1211] is not "10" or "11" set Reason for No Radiation [#1430] = 0.
F.5	Narrative Radiation Oncology Section, Section Text
F.5.a	Append Narrative Radiation Oncology Section, Section Text to NAACCR RX Text--Radiation (Beam) [#2620] and RX Text--Radiation Other [#2630], consecutively, removing carriage returns/line feeds. (i.e., text should populate across these two NAACCR fields in the specified order if there is more than 1000 characters of text.)
Z	END of processing for Radiation Therapy for cases diagnosed 2018+

RX Hosp--Chemo [#700]

RX Summ--Chemo [#1390]

RX Date Chemo [#1220]

RX Date Chemo Flag [#1221]

RX Text--Chemo [#2640]

RX Hosp--Hormone Therapy [#710]

RX Summ--Hormone Therapy [#1400]

RX Date Hormone [#1230]

RX Date Hormone Flag [#1231]

RX Text--Hormone [#2650]

RX Hosp--BRM [#720]

RX Summ--BRM [#1410]

RX Date BRM [#1240]

RX Date BRM Flag [#1241]

RX Text--BRM [#2660]

RX Hosp--Other [#730]

RX Summ--Other [#1420]

RX Date Other [#1250]

RX Date Other Flag [#1251]

RX Text--Other [#2670]

Chemotherapy, hormone therapy, and immunotherapy are mapped from two CDA document sections, the Medications Administered and Medications Sections.
There are three rule sets for processing systemic treatment data items:

- Medications Administered Section Rules
- Medications Section Rules
- Finalize Systemic Treatment Rules

The rules for the Medications Administered and Medications Sections are actually the same. The difference is which field(s) are populated by the rule-generated value.

Medications listed in the Medications Administered Section were given in the physician's office during the encounter. These medications can be used to populate RX Hosp--Chemo, RX Hosp--Hormone, RX Hosp--BRM, and RX Hosp--Other as well was RX Summ--Chemo, RX Summ--Hormone, RX Summ--BRM, and RX Summ--Other.

Medications listed in the Medications Section may or may not have been given during the encounter. eMaRC Plus applies rules to determine whether the medication is a part of the current encounter. If the criteria are not met, the medications in this section only populate the RX Summ data items.

The Medications Mapping Table (MedicationsTranlation) includes cancer chemotherapy, hormone therapy, and immunotherapy (BRM) medications. It is based on the SEER*RX database (the definitive source for cancer-directed treatment) and includes the RXNorm concept ID number (RXCUI) when available.

Medications that are not found in the SEER*RX table will not be written to the processing log. Registries may wish to review the Medications Section Tables (Data_Medications and Data_Medications_Admin) periodically to verify that cancer-directed medications aren't missed due to misspellings, new drugs, etc.

For this release, eMaRC will populate RX Hosp--Chemo and RX Summ--Chemo with the general value of "1-Chemotherapy, NOS" instead of determining the number of chemotherapy medications that have been included in the CDA document.

For this release eMaRC determines whether a medication is considered part of the first course of treatment if the medication date is the same as, or within one year after the date of diagnosis.

Medications Administered Section Rules

Rule #	Mapping/Translation Rules
	For each entry in the Medications Administered Section in the CDA Document, perform the following steps. Whenever "end of processing for that medication" is indicated, return to beginning of this process for next medication. Determine RX--Hosp*, R--Summ*, RX Date* and RX Text*.
	The CDA document can list the medication in any/all of three items. The software checks whether the medication is in the Medication Translation Table using, in order, the following CDA elements: a. Coded Product Name (numeric RXNorm value) b. Product Name Description (original text) c. Translation Code
A	Determine whether medication is cancer directed therapy.
A.1	If the medication in the three CDA elements is NOT found in the Medication Translation Table, 1. Do not write a message into the Processing Log. 2. Do not populate any NAACCR abstract treatment fields. End of processing for that medication.
B	Determine if the Medication (Start) Date is within the time frame specified
B.1	Medication (Start) Date or Diagnosis Date missing or null
B.1.a	If the medication in the three Data Elements is in the Medication Translation table but the Medication (Start) Date or Diagnosis Date is missing or null flavor: 1.Record the following message in the Processing Log: *"Medication [Code-DisplayName] was not used because either the Medication Start Date or the Diagnosis Date was unknown or null in CDA Report.*" 2. Do not populate any NAACCR abstract treatment fields. End of processing for that medication.
B.2	If Medication (Start Date) or Diagnosis Date is partial
B.2.a	If only the year is provided AND if the Medication (Start) Date Year is before the Diagnosis Date, or more than one year after the Diagnosis Date: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was not used because the Medication Start Date is either before or more than one year after the Diagnosis Date."* 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
B.2.b	If only the year is provided AND If the Medication (Start) Date Year is equal to or one year after the Diagnosis Date: **continue with Step C.**

Rule #	Mapping/Translation Rules
B.2.c	If month and year are provided, consider the missing date component to be equal to the known date component AND if the Medication (Start Date) is more than one year after the cancer diagnosis date: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was given more than one year after the Diagnosis Date." .* 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
B.2.d	If month and year are provided, consider the missing date component to be equal to the known date component AND If the Medication (Start) Date is less than or equal to one year after the cancer diagnosis date, **continue with Step C.**
B3	If complete Medication (Start) Date and Diagnosis Date are provided
B.3.a	If the Medication (Start) Date is more than one year after the cancer diagnosis date: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was given more than one year after the Diagnosis Date."* 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
B.3.b	If the Medication (Start) Date is less than or equal to one year after the cancer diagnosis date, **continue with Step C.**
C	Populate abstract and tables with appropriate data items
C.1 - C.4	Populate the NAACCR data items that correspond to the Category listed in the Medications Translation Table as indicated
C.1.a	If the category assigned to the medication is **"Chemotherapy",** populate: RX Hosp--Chemo [#700] and RX Summ--Chemo [#1390] with the value of "01-Chemotherapy, NOS".
C.1.b	If RX Date Chemo [#1220] is not populated, map the CDA Medication (Start) Date to RX Date Chemo.
C.1.b.1	If RX Date Chemo [#1220] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Chemo, replace RX Date Chemo with the new Medication Start Date.
C.1.b.2	If RX Date Chemo [#1220] is already populated and the new Medication (Start) Date is after than the existing RX Date Chemo, ignore the new Medication (Start) Date.
C.1.c	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Chemo [#2640].
C.2.a	If the category assigned to the medication is "**Hormone Therapy",** populate: RX Hosp--Hormone [#710] and RX Summ--Hormone [#1400] with the value of "01--Hormone therapy administered as first-course therapy."
C.2.b	If RX Date Hormone [#1230] is not populated, map the CDA Medication (Start) Date to RX Date Hormone.
C.2.b.1	If RX Date Hormone [#1230] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Hormone, replace RX Date Hormone with the new Medication Start Date.
C.2.b.2	If RX Date Hormone [#1230] is already populated and the new Medication (Start) Date is after the existing RX Date Hormone, ignore the new Medication Start Date.
C.2.c	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Hormone [#2650].

Rule #	Mapping/Translation Rules
C.3.a	If the category assigned to the medication is "**Immunotherapy (BRM)**", populate: RX Hosp--BRM [#720] and RX Summ--BRM [#1410] with the value of "01--Immunotherapy administered as first-course therapy."
C.3.b	If RX Date BRM [#1240] is not populated, use Medication (Start) Date.
C.3.b.1	If RX Date BRM [#1240] is already populated and the new Medication (Start) Date is earlier than the existing RX Date BRM, replace RX Date BRM with the new Medication (Start) Date.
C.3.b.2	If RX Date BRM [#1240] is already populated and the new Medication (Start) Date is after than the existing RX Date BRM, ignore the new Medication (Start) Date.
C.3.c	Append date, code, display name, translation code and display name and original text of the medication into RX Text--BRM [#2660].
C.4.a	If the category assigned to the medication is "**Other therapy**", populate: RX Hosp--Other [#730] and RX Summ--Other [#1420] with the value of "1--Cancer treatment that cannot be assigned to specified treatment data items."
C.4.b	If RX Date Other [#1250] is not populated, use Medication (Start) Date.
C.4.b.1	If RX Date Other [#1250] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Other, replace RX Date Other with the new Medication (Start) Date.
C.4.b.2	If RX Date Other [#1250] is already populated and the new Medication Start Date is after than the existing RX Date Other, ignore the new Medication Start Date.
C.4.c	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Other [#2670].
Z.	END of processing for Medications Administered Section. Continue with the rules for the Medications Section.

Medications Section Rules

Rule #	Mapping/Translation Rules
Note 1	For each entry in the Medications Section in the CDA Document, perform the following steps. Whenever "end of processing for that medication" is indicated, return to beginning of this process for next medication. Determine R--Summ*, RX--Date* and RX--Text*.
Note 2	The CDA document can list the medication in any/all of three items. The software checks whether the medication is in the Medication Translation Table (MedicationTranslation) using, in order, the following CDA elements: a. Coded Product Name (numeric RXNorm value) b. Product Name Description (original text) c. Translation Code
A	Determine whether medication is cancer directed therapy.
A.1	If the medication in the three CDA elements is not found in the table MedicationTranslation: 1. Do not write a message into the Processing Log. 2. Do not populate any NAACCR abstract treatment fields. End of processing for that medication.
B	The software checks to determine if the Medication (Start) Date is within the time frame specified
B.1	Medication (Start) Date or Diagnosis Date missing or null
B.1.a	If the medication in the three Data Elements is in MedicationTranslation but the Medication (Start) Date or Diagnosis Date is missing or null flavor:

Rule #	Mapping/Translation Rules
	1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was not used because either the Medication Start Date or the Diagnosis Date was unknown or null in CDA Report.* 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
B.2	If Medication (Start) Date or Diagnosis Date is partial
B.2.a	If only the year is provided AND if the Medication (Start) Date Year is before the Diagnosis Date, or more than one year after the Diagnosis Date: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was not used because the Medication Start Date is either before or more than one year after the Diagnosis Date."* 1. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
B.2.b	If only the year is provided AND If the Medication (Start) Date Year is equal to or one year after the Diagnosis Date: **continue with Step C.**
B.2.c	If month and year are provided, consider the missing date component to be equal to the known date component AND if the Medication (Start) Date is more than one year after the cancer diagnosis date: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was given more than one year after the Diagnosis Date."* 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
B.2.d	If month and year are provided, consider the missing date component to be equal to the known date component AND If the Medication (Start) Date is less than one year after the cancer diagnosis date, **continue with Step C.**
B3	If complete Medication (Start) Date and Diagnosis Date are provided
B.3.a	If the Medication (Start) Date is more than one year after the cancer diagnosis date: 1. Record the following message in the Processing Log: *"Medication [Code-DisplayName] was given more than one year after the Diagnosis Date."* 2. Do not populate any NAACCR abstract treatment field. End of processing for that medication.
B.3.b	If the Medication (Start) Date is less than or equal to one year after the cancer diagnosis date, **continue with Step C.**
C	Populate abstract and tables with appropriate data items
C.1 - C.4	Populate the NAACCR data items that correspond to the Category listed in medicationtranslation as indicated
C.1.a	If the category assigned to the medication is **"Chemotherapy",** populate: RX Summ--Chemo [#1390] with the value of "01-Chemotherapy, NOS".
C.1.b	If RX Date Chemo [#1220] is not populated, map the CDA Medication (Start) Date to RX Date Chemo.
C.1.b.1	If RX Date Chemo [#1220] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Chemo, replace RX Date Chemo with the new Medication Start Date.

Rule #	Mapping/Translation Rules
C.1.b.2	If RX Date Chemo [#1220] is already populated and the new Medication (Start) Date is after than the existing RX Date Chemo, ignore the new Medication Start Date.
C.1.c	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Chemo [#2640].
C.2.a	If the category assigned to the medication is "**Hormone Therapy"** populate: RX Summ--Hormone [#1400] with the value of "01--Hormone therapy administered as first-course therapy."
C.2.b	If RX Date Hormone [#1230] is not populated, map the CDA Medication (Start) Date to RX Date Hormone.
C.2.b.1	If RX Date Hormone [#1230] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Hormone, replace RX Date Hormone with the new Medication (Start) Date.
C.2.b.2	If RX Date Hormone [#1230] is already populated and the new Medication (Start) Date is after than the existing RX Date Hormone, ignore the new Medication (Start) Date.
C.2.c	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Hormone [#2650].
C.3.a	If the category assigned to the medication is "**Immunotherapy (BRM)**", populate: RX Summ--BRM [#1410] with the value of "01--Immunotherapy administered as first-course therapy."
C.3.b	If RX Date BRM [#1240] is not populated, use Medication (Start) Date.
C.3.b.1	If RX Date BRM [#1240] is already populated and the new Medication (Start) Date is earlier than the existing RX Date BRM, replace RX Date BRM with the new Medication (Start) Date.
C.3.b.2	If RX Date BRM [#1240] is already populated and the new Medication (Start) Date is after than the existing RX Date BRM, ignore the new Medication (Start) Date.
C.3.c	Append date, code, display name, translation code and display name and original text of the medication into RX Text--BRM.
C.4.a	If the category assigned to the medication is "Other therapy", populate: RX Summ--Other [#1420] with the value of "1--Cancer treatment that cannot be assigned to specified treatment data items."
C.4.b	If RX Date Other is not populated, use Medication (Start) Date.
C.4.b.1	If RX Date Other [#1250] is already populated and the new Medication (Start) Date is earlier than the existing RX Date Other, replace RX Date Other with the new Medication (Start) Date.
C.4.b.2	If RX Date Other [#1250] is already populated and the new Medication (Start) Date is after than the existing RX Date Other, ignore the new Medication (Start) Date.
C.4.c	Append date, code, display name, translation code and display name and original text of the medication into RX Text--Other.
Z.	END of processing for Medications Section. Continue with the rules for Finalize Systemic Treatment Rules.

Finalize Systemic (Chemotherapy/Medication) Treatment Rules

Rule #	Mapping/Translation Rules
A	Populate RX--Hosp* and RX--Summ* data items that are still blank/empty.

Rule #	Mapping/Translation Rules
A.1	If a NAACCR Treatment data item is blank, set data items as indicated below: **Data items to set "00-Therapy not given":** RX Hosp--Chemo [#700] RX Summ--Chemo [#1390] RX Hosp--Hormone Therapy [#710] RX Summ--Hormone Therapy [#1400] RX Hosp-- BRM [#720] RX Summ--(BRM [#1410] **Data items to set "0-None":** RX Hosp--Other [#730] RX Summ--Other [#1420]
B	Populate Date Flags (RX Date Chemo Flag [#1221], RX Date Hormone Flag [#1231] and RX Date BRM Flag [#1241]
B.1	Populate RX Date Chemo Flag [#1221]
B.1.a	If RX Summ--Chemo is (01, 02, 03) and RX Date Chemo is populated, leave RX Date Chemo Flag blank/empty.
B.1.b	If RX Summ--Chemo is “00” and RX Date Chemo is blank/empty, then set RX Date Chemo Flag to the value of “11- No proper value is applicable in this context (e.g., no chemotherapy administered; autopsy only case).”
B.2	Populate RX Date Hormone Flag [#1231]
B.2.a	If RX Summ--Hormone is “01”and RX Date Hormone is populated, leave RX Date Hormone Flag blank/empty.
B.2.b	If RX Summ--Hormone “00” and RX Date Hormone is blank/empty, then set RX Date Hormone Flag to the value of “11- No proper value is applicable in this context (e.g., no hormone therapy administered; autopsy only cases).”
B.3	Populate RX Date BRM Flag [#1241]
B.3.a	If RX Summ--BRM is “01”and RX Date BRM is populated, leave RX Date BRM Flag blank.
B.3.b	If RX Summ--BRM “00” and RX Date BRM is blank/empty, then set RX Date BRM Flag to the value of “11- No proper value is applicable in this context (e.g., no immunotherapy administered; autopsy only case).”
B.4	Populate RX Date Other Flag [#1251]
B.4.a	If RX Summ--Other is “1”and RX Date Other is populated, leave RX Date Other Flag blank/empty.
B.4.b	If RX Summ--Other “0” and RX Date Other is blank/empty, then set RX Date Other Flag to the value of “11- No proper value is applicable in this context (e.g., no other treatment administered; autopsy only case).”
Z	END of processing for Medications and Medications Administered Sections.

RX Summ--Surg/Rad Seq [#1380]

RX Summ--Systemic/Sur Seq [#1639]

Surgery/Radiation Sequence Rules

Rule #	Mapping/Translation Rules
1	If (RX Summ--Radiation [#1360] = “0” or “9”) or (Phase I Radiation Treatment Modality = “00” or “99”) or (RX Summ--Surg Prim Site [#1290] = “00” or “99”), Set RX Summ--Surg/Rad Seq [#1380] = “0”.
1.a	Either Surgery not performed, or Radiation not administered

Rule #	Mapping/Translation Rules
1.a.1	If RX Date Surgery Flag [#1201] = 10, set RX Summ--Surg/Rad Seq = “0”.
1.a.2	If RX Date Radiation Flag [#1211] = 10, set RX RX Summ--Surg/Rad Seq = “0”.
2	Sequence unknown, but both surgery and radiation were given
3	Both surgery and radiation therapy given, and radiation therapy is intraoperative
3.a	If RX Date Radiation [#1210] = RX Date Surgery [#1200], Set RX Summ--Surg/Rad Seq = “5”.
4	Both surgery and radiation therapy given and radiation therapy before surgery
4.a	If RX Date Radiation [#1210] IS EARLIER THAN RX Date Surgery [#1200], Set RX Summ--Surg/Rad Seq = “2”.
5	Both surgery and radiation therapy given and radiation therapy after surgery
5.a	If RX Date Radiation [#1210] IS LATER THAN RX Date Surgery [#1200], Set RX Summ--Surg/Rad Seq = “3”.
6	Else set RX Summ--Surg/Rad Seq = “0”.

Systemic/Surgery Treatment Sequence Rules

Rule #	Mapping/Translation Rules
1	No surgery or systemic therapy, RX Summ--Systemic Sur Seq = “0”
1.a	If RX Date Surgery Flag [#1201] =10, set RX Summ--Systemic/Sur Seq = “0”.
1.b	If RX Date BRM Flag [#1241] AND (RX Date Chemo Flag [#1221] AND RX Date Hormone Flag [#1231] = 11), set RX Summ--Systemic/Sur Seq = “0”.
2	Both surgery and systemic therapy given and intraoperative systemic therapy with other therapy administered before and/or after surgery, RX Summ--Systemic/Sur Seq = “6”.
2.a	If ANY of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230])= RX Date Surgery [#1200] AND (any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) ARE EARLIER THAN RX Date Surgery [#1200] OR any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) ARE LATER THAN RX Date Surgery [#1200]), set RX Summ--Systemic/Sur Seq = “6”.
3	Both surgery and systemic therapy given and systemic therapy both before and after surgery, RX Summ--Systemic Sur Seq = 4
3.a	IF (any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) ARE EARLIER THAN RX Date Surgery [#1200] AND any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) ARE LATER THAN RX Date Surgery [#1200]), set RX Summ--Systemic/Sur Seq = 4.
4	Both surgery and systemic therapy given, and systemic therapy is intraoperative, RX Summ--Systemic Sur Seq = 5
4.a	IF any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) = RX Date Surgery [#1200], set RX Summ--Systemic/Sur Seq = “5”.
5	Both surgery and systemic therapy given and systemic therapy before surgery, RX Summ--Systemic Sur Seq = 2

Rule #	Mapping/Translation Rules
5.a	IF any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) IS EARLIER THAN RX Date Surgery [#1200], set RX Summ--Systemic/Sur Seq = 2.
6	Both surgery and systemic therapy given and systemic therapy after surgery, RX Summ--Systemic/Sur Seq = “3”
6.a	IF any of these data items (RX Date BRM [#1240], RX Date Chemo [#1220], RX Date Hormone [#1230]) IS LATER THAN RX Date Surgery [#1200], set RX Summ--Systemic/Sur Seq = “3”.
7	Else set RX Summ--Systemic/Sur Seq = “0”.

Date Initial RX SEER [#1260]

Date Initial RX SEER Flag [#1261]

Date 1st Crs RX CoC [#1270]

Date 1st Crs RX CoC Flag [#1271]

RX Summ--Treatment Status [#1285]

Date of initial therapy will be determined after all treatment mapping and translation has been performed (Results Section, Procedures Section, Medications Administered Section, Medications Section).

Rule #	Mapping/Translation Rules
A	Date Initial RX SEER [#1260]
A.1	Set Date Initial RX SEER to be the earliest known date selected from • 1200 RX Date Surgery • 1210 RX Date Radiation • 1220 RX Date Chemo • 1230 RX Date Hormone • 1240 RX Date BRM • 1250 RX Date Other
A.2	If all treatment date fields are blank/empty, do not populate Date Initial RX SEER.
B	Date Initial RX SEER Flag [#1261]
B.1	If Date Initial RX SEER has a date (complete or date part), do not populate Date Initial RX SEER Flag.
B.2	If Date Initial RX SEER does not have a date, set Date Initial RX SEER Flag to the value of “11- No proper value is applicable in this context (e.g., therapy was not administered).”
C	Date 1st Crs RX CoC [#1270]
C.1	Set Date 1st Crs RX CoC to be the earliest known date selected from • 1200 RX Date Surgery • 1210 RX Date Radiation • 1220 RX Date Chemo • 1230 RX Date Hormone • 1240 RX Date BRM • 1250 RX Date Other
C.2	If all treatment date fields are blank/empty, do not populate Date 1st Crs RX CoC.
D	Date 1st Crs RX CoC Flag [#1271]
D.1	If Date 1st Crs RX CoC has a date (complete or date part), do not populate Date 1st Crs RX CoC Flag.
D.2	If Date 1st Crs RX CoC does not have a date, set Date 1st Crs RX CoC Flag to the value of “11- No proper value is applicable in this context (e.g., therapy was not administered).

Rule #	Mapping/Translation Rules
E	RX Summ--Treatment Status [#1285]
E.1	If RX Summ--Surgery of Primary Site [#1290] is (between "01" and "90") OR RX Summ--Radiation [#1360] is ("1", "2", "3", "4", "5") OR RX Summ--Chemo [#1390] is ("01", "02", "03") OR RX Summ--Hormone [#1400] is "01" OR RX Summ--BRM [#1410] is "01" OR RX Summ--Other [#1420] is ("1", "2", "3", "6") OR Phase I Radiation Treatment Modality is NOT (“00” or “99”), set RX Summ--Treatment Status = "1".
E.2	If RX Summ--Surgery of Primary Site [#1290] is "99" AND RX Summ--Radiation [#1360] is "99" AND RX Summ--Chemo is "00" AND RX Summ--Hormone is "00"AND RX Summ--Immunotherapy(BRM) is "00"AND RX Summ--Other is "0" set RX Summ--Treatment Status = "9".
E.3	Else do not populate RX Summ--Treatment Status.

Comorbid/Complication 1 [#3110]

Comorbid/Complication 2 [#3120]

Comorbid/Complication 3 [#3130]

Comorbid/Complication 4 [#3140]

Comorbid/Complication 5 [#3150]

Comorbid/Complication 6 [#3160]

Comorbid/Complication 7 [#3161]

Comorbid/Complication 8 [#3162]

Comorbid/Complication 9 [#3163]

Comorbid/Complication 10 [#3164]

Secondary Diagnosis 1 [#3780]

Secondary Diagnosis 2 [#3782]

Secondary Diagnosis 3 [#3784]

Secondary Diagnosis 4 [#3786]

Secondary Diagnosis 5 [#3788]

Secondary Diagnosis 6 [#3790]

Secondary Diagnosis 7 [#3792]

Secondary Diagnosis 8 [#3794]

Secondary Diagnosis 9 [#3796]

Secondary Diagnosis 10 [#3798]

Text--DX Proc--PE [#2520]

Rule #	Mapping/Translation Rules
1	If there are no problems, set: Comorbid/Complication 1 = 00000 [#3110] Comorbid/Complication 2-10 = spaces [#3120 - #3164] Secondary Diagnosis 1 = 0000000 [#3780] Secondary Diagnosis 2-10 = spaces [#3782 - #3798]
2	ICD-9-CM mapping to Comorbidities and Complications
2.a	Map ICD-9-CM CDA Problem Codes to Comorbidity 1 – Comorbidity 10 data items with only the codes that are listed in NAACCR Volume II, Version 16. ICD-9-CM Codes: 00100-13980, 24000-99990, E8700-E8799, E9300-E9499, V0720-V0739, V1000-V1590, V2220- V2310, V2540, V4400-V4589, and V5041-V5049. For codes that are ignored, Record the following message to the Processing Log: "*Code <code+displayname> not mapped…code not included in the NAACCR list of acceptable Comorbid/Compl or Secondary Diagnoses.*"
2.b	Map the first 10 codes in the order they appear in the CDA document.
2.c	If any of the CDA problem codes after the first 10 are “Personal history of cancer” codes, which are the range of codes from V10.00-V10.91 (Personal history of malignant neoplasm), replace the mapped NAACCR comorbidity codes with the “Personal history of cancer” codes as needed in descending order (i.e., start with Comorbidity 10, item and replace it with the “Personal history of cancer” code. If two “Personal history of cancer” codes, store them in Comorbidity 10 and 9).
2.d	When more than 10 Problem codes were submitted and not all were mapped: Record the following message in the Processing Log: **"***Code <code+displayname> not mapped…more than 10 Active problems submitted.*"
3	ICD-10-CM mapping to Secondary Diagnosis
3.a	Map ICD-10-CM CDA Problem Codes to NAACCR Secondary Diagnoses 1-10 with only the codes that are listed in NAACCR Volume II, Version 16. ICD-10-CM Codes: A00.0 - B99.9, E00.0 - E89.89, G00.0 - P96.9, R00.0 - S99.929, T36.0 - T50.996, Y62.0 - Y84.9, Z14.0 - Z22.9, Z68.1 - Z68.54, Z80.0 - Z80.9, Z85.0 - Z86.03, Z86.1 - Z99.89.
3.b	Map the first 10 codes in the order they appear in the CDA document.
3.c	If any of CDA problem codes after the first 10 are “Personal history of cancer” codes, which are the range of codes from Z85.00-Z85.9, replace the mapped NAACCR Secondary Diagnosis codes with the “Personal history of cancer” codes as needed in descending order (i.e., start with Secondary Diagnosis 10 and replace it with the “Personal history of cancer” code). Example: If two “Personal history of cancer” codes, store them in Secondary Diagnosis 10 and 9.
3.d	When more than 10 Problem codes were submitted and not all were mapped Record the following message in the Processing Log: "*Code <code+displayname> not mapped…more than 10 Active problems submitted.*"
4	SNOMED CT mapping to Secondary Diagnosis
4.a	Map SNOMED CT Problem Codes to NAACCR Secondary Diagnoses 1-10 with only the codes that are listed in NAACCR Volume II, Version 16: Translated ICD-10-CM Codes: A00.0 - B99.9, E00.0 - E89.89, G00.0 - P96.9, R00.0 - S99.929, T36.0 - T50.996, Y62.0 - Y84.9, Z14.0 - Z22.9, Z68.1 - Z68.54, Z80.0 - Z80.9, Z85.0 - Z86.03, Z86.1 - Z99.89.
4.b	Map the first 10 codes in the order they appear in the CDA document.

Rule #	Mapping/Translation Rules
4.c	If any of CDA problem codes after the first 10 are “Personal history of cancer” codes, which are the range of codes from Z85.00-Z85.9, replace the mapped NAACCR Secondary Diagnosis codes with the “Personal history of cancer” codes as needed in descending order (i.e., start with Secondary Diagnosis 10 and replace it with the “Personal history of cancer” code). Example: If two “Personal history of cancer” codes, store them in Secondary Diagnosis 10 and 9.
4.d	When more than 10 Problem codes were submitted and not all were mapped: Record the following message to the Processing Log: **"***Code <code+displayname> not mapped…more than 10 Active problems submitted.*"
4.e	When a CDA problem code is not included in TRANS_SNOMED_ICD10_PROB_CDA: Record the following message to Processing Log Message: “*Code <code+displayName> not mapped…<code> not included in the NAACCR list of acceptable Comorbid/Compl or Secondary Diagnoses.”*
4	Text--DX Proc--PE [#2520].
5.a	Append Problem Section narrative to Text--DX Proc--PE.

Date of 1st Contact [#580]

Date of Last Contact [#1750]

Dates of contact are mapped from one of three CDA Header elements:

- **Encompassing Encounter**: This optional class represents the setting of the clinical encounter during which the documented act(s) or ServiceEvent occurred.
- **ServiceEvent/:** This class represents the main Act, such as a colonoscopy or an appendectomy, being documented.
- **Document effectiveTime/:** Signifies the document creation time, when the document first came into being. Where the CDA document is a transform from an original document in some other format, the effectiveTime is the time the original document was created.

Rule #	Mapping/Translation Rules
1	Date of 1st Contact [#580]
1.a	Select and map the earliest effectiveTime from ALL of the following date elements, regardless of whether it is effectiveTime/low, effectiveTime/high, or has no high/low specified: a. Service Event b. Encompassing Encounter c. Diagnosis Date
2	Date of Last Contact [#1750]
2.a	Populate Date of Last Contact with sdtc:deceasedTime/@value
2.b	If there is no value for deceased time, then: Select and map the most recent effectiveTime from ALL of the following date elements, regardless of whether it is effectiveTime/low, effectiveTime/high, or has no high/low specified: a. Service Event b. Encompassing Encounter c. Diagnosis Date d. Procedure Date e. Medication Administered Start or End Date f. Medication Start or End Date

Vital Status [#1760]

Rule #	Mapping/Translation Rules
1	Set Vital Status using Deceased Indicator
1.a	If sdtc:deceasedInd value="true", populate Vital Status with “0—Dead”
1.b	If sdtc:deceasedInd value="false", populate Vital Status with “1—Alive”

Vendor/Device

Vendor Name [#2170]

Rule #	Mapping/Translation Rules
1	Set Vendor Name [#2170] = eMaRC [Version#] (where the current version number is provided)

Reporting Facility [#540]

NPI--Reporting Facility [#545]

Text--Place of Diagnosis [#2690]

The CDA Physician report includes NPI numbers for facilities, and eMaRC Plus populates the corresponding NPI data items based on the rules below.

Registries **MUST** build a translation table using the Manage Facility feature (see User Guide) from the NPI Codes to their state-specific codes to populate Reporting Facility [#540].

Registries **MUST** provide their own state-assigned facility numbers to the EHR vendor and/or facilities submitting reports in order to have their FIN populate Reporting Facility [#540].

Rule #	Mapping/Translation Rules
1	Compare custodian/assignedCustodian/representedCustodianOrganization/id/@root with the OID stored in the eMaRC configuration
1.a	If custodian/assignedCustodian/representedCustodianOrganization/id/@root does not match the OID stored in the eMaRC configuration, go step 2 below.
1.b	If custodian/assignedCustodian/representedCustodianOrganization/id/@root matches the OID stored in the eMaRC configuration, then map CDA custodian/assignedCustodian/representedCustodianOrganization/id/@extension to NAACCR Reporting Facility when the id/@root is in the StateCancerRegistry_OID table. **[Note: this mapping requires the State Cancer Registry to provide their own state-assigned Facility ID numbers to the EHR vendor and/or facility submitting the data.]**
2	If the NAACCR Reporting Facility is empty/blank, use the Facility Table to map the Reporting Facility from the custodian/assignedCustodian/representedCustodianOrganization/id NPI number (@root="2.16.840.1.113883.4.6").
3	If the NAACCR Reporting Facility is empty/blank, use the Facility Table to map the Reporting Facility from the custodian/assignedCustodian/representedCustodianOrganization/name.
4	Map CDA Custodian/Represented Custodian Organization NPI to NAACCR NPI--Reporting Facility

Rule #	Mapping/Translation Rules
5	Append Reporting organization (Custodian) Name with tag "*Reporting Facility:*" to Text--Place of Diagnosis.

EHR Vendor Name, Software and Version [NAACCR Item #2508]

EHR Reporting (columns 5115-5194)

Rule #	Mapping/Translation Rules
1	Map author/assignedAuthor/assignedAuthoringDevice/manufacturerModelName AND author/assignedAuthor/assignedAuthoringDevice/softwareName to EHR Reporting [#2508] columns 5115-5194
1.a	Separate mapped values with a ";"

NPI--Physician--Managing [#2465]

NPI--Physician--Follow Up [#2475]

NPI--Physician 3 [#2495]

NPI--Physician 4 [#2505]

Text--Remarks [#2680]

The CDA Physician report includes NPI numbers for physicians; eMaRC Plus populates the corresponding NAACCR NPI data items based on the rules below.

 Note	Registries may choose to build a translation table from the NPI Codes to their state-specific codes to populate the data items of Physician--Managing [#2460], Physician--Follow Up [#2470], Physician 3 [#2490] and Physician 4 [#2500].

Note 1	The CDA document contains three data items that can be used to populate physician data items: • CDA Author: Represents the humans and/or machines that authored the document. • ServiceEvent/Performer: Represents clinicians who actually and principally carry out the ServiceEvent. • EncompassingEncounter/responsibleParty: Has primary legal responsibility for the encounter.

Rule #	Mapping/Translation Rules
1	Populate Managing/Following physician using CDA AUTHOR
1.a	If author/assignedAuthor/@root= "2.16.840.1.113883.4.6" (NPI), Map CDA author/assignedAuthor/@extension to NAACCR NPI--Physician--Managing [#2465] **AND** NAACCR NPI--Physician--Follow Up [#2475].
1.b	Append corresponding CDA Physician Name (author/assignedAuthor/assignedPerson/name) with tag "*Managing/FUP:*" and corresponding CDA Healthcare Provider Type display name with tag "Specialty:" to NAACCR Text--Remarks.
1.c	If Author does not have an NPI number, append CDA Physician Name (author/assignedAuthor/assignedPerson/name) with tag "*Managing/FUP*:" and CDA Healthcare Provider Type display name with tag "Specialty:" to NAACCR Text--Remarks. Continue with Step 2, below.

Rule #	Mapping/Translation Rules
2	Populate Managing/Following physician using ServiceEvent when AUTHOR is not an NPI
2.a	ELSE: If serviceEvent/performer/assignedEntity/id/@root = "2.16.840.1.113883.4.6" (NPI), Set NAACCR NPI--Physician--Managing [#2465] AND NAACCR NPI--Physician--Follow Up [#2475] to be CDA serviceEvent/performer/assignedEntity/id/@extension.
2.b	Append corresponding CDA Physician Name (serviceEvent/performer/assignedEntity/assignedPerson/name) with tag "*Managing/FUP*:" and corresponding CDA Healthcare Provider Type display name with tag "Specialty:" to NAACCR Text--Remarks.
2.c	If ServiceEvent does not have an NPI number, append CDA Physician Name (serviceEvent/performer/assignedEntity/assignedPerson/name) with tag "*Managing/FUP*:" and CDA Healthcare Provider Type display name with tag "Specialty:" to NAACCR Text--Remarks. Continue with Step 3, below.
3	Populate Managing/Following physician using EncompassingEncounter when AUTHOR and ServiceEvent are not NPI.
3.a	ELSE: if encompassingEncounter/responsibleParty/assignedEntity/id/@extension when id/@root = "2.16.840.1.113883.4.6" (NPI), Set NAACCR NPI--Physician--Managing [#2465] AND NAACCR NPI--Physician--Follow Up [#2475] to be encompassingEncounter/responsibleParty/assignedEntity/id@extension.
3.b	Append corresponding CDA Physician Name (encompassingEncounter/responsibleParty/assignedEntity/assignedPerson/name with tag "*Managing/FUP*:" and corresponding CDA Healthcare Provider Type display name with tag "Specialty:" to NAACCR Text--Remarks.
3.c	If EncompassingEncounter does not have an NPI number, append CDA Physician Name (encompassingEncounter/responsibleParty/assignedEntity/assignedPerson/name with tag "*Managing/FUP*:" and CDA Healthcare Provider Type display name with tag "Specialty:" to NAACCR Text--Remarks. Continue with Step 4, below.
4	Populate Physician 3
4.a	Excluding the NPI used in Author and null, Perform steps 2a and 2b, 3a and 3b, respectively to populate NPI--Physician 3 [#2495].
4.b	Append corresponding Physician Name with tag "*Physician 3:*" and corresponding CDA Healthcare Provider Type display name with tag "Specialty:" to Text--Remarks.
5	Populate Physician 4
5.a	Excluding the NPI used in Author, ServiceEvent/performer and null, Perform step 3a and 3b to populate NPI--Physician 4 [#2505].
5.b	Append corresponding Physician Name to with tag "*Physician 4:*" and corresponding CDA Healthcare Provider Type display name with tag "Specialty:" Text--Remarks.

NPI--Inst Referred From [#2415]

The CDA Physician report includes NPI numbers for facilities; eMaRC Plus populates the corresponding NAACCR NPI data items based on the rules below.

Registries may choose to build a translation table from the NPI Codes to their state-specific codes to populate Institution Referred From [#2410].

Rule #	Mapping/Translation Rules
1.a	If encounterParticipant@typeCode is NOT 'REF', ignore the entry. End of processing for Referred From.
1.b	If encounterParticipant@typeCode = 'REF', map CDA Encompassing Encounter Represented Organization NPI to NAACCR NPI--Inst Referred From [#2415].
1.c	If encounterParticipant@typeCode = 'REF' and CDA Encompassing Encounter Represented Organization ID is not present or is not an NPI, map CDA Encompassing Encounter Assigned Entity NPI to NAACCR NPI--Inst Referred From [#2415]
1.d	Append corresponding Represented Organization Name and Assigned Entity/Assigned Person Name with tag "*Provider Referred From:*" to Text Remarks.
Z.	End of Processing for Inst Referred From.

NPI--Inst Referred To [#2425]

Text--Remarks [#2680]

The CDA Physician report includes NPI numbers for facilities; eMaRC Plus populates the corresponding NAACCR NPI data items based on the rules below.

Registries may choose to build a translation table from the NPI Codes to their state-specific codes to populate Institution Referred To [#2420].

Rule #	Mapping/Translation Rules
	NPI--Inst Referred To [#2425]
1	If Plan of Treatment Section/Planned Encounter Entry @moodCode is NOT ="APT" or "ARQ", ignore all information in the Plan Of Treatment Section/Planned Encounter Entry.
2	NPI--Inst Referred To [#2425] when Performer/Assigned Entity/NPI is Present
2.a	Map CDA Plan of Treatment Section/Planned Encounter Entry Performer/Assigned Entity NPI to NPI--Inst Referred To.
2.b	Append corresponding Assigned Person and Represented Organization names with tag "*Inst Referred to:*" to Text--Remarks.
3	No Performer/Assigned Entity/NPI is present, use Performer/Assigned Entity/Represented Organization (physician NPI number)
3.a	If no Care Plan Section/Encounter Performer/Assigned Entity NPI, map CDA **Represented Organization** NPI to NPI--Inst Referred To.
4	Text--Remarks [#2680]
4.a	Append Plan of Treatment Section/Planned Encounter Entry/Participant/Service Delivery Location Healthcare Service Location Display Name with tag "*Referred to Healthcare Location Type*" to Text--Remarks

Date Case Report Exported [#2110]

Rule #	Mapping/Translation Rules
1	Set Date Case Exported to be document effective Time.

MU VERSION [NAACCR Item # 2508]

EHR Reporting (columns 5105 - 6104)

Rule #	Mapping/Translation Rules
1	If templateId = /ClinicalDocument/templateId/@root='1.3.6.1.4.1.19376.1.7.3.1.1.14.1':
1.a	Set EHR Reporting [#2508] columns 5105-5114 = “MUIG2”
1.b	Set value of MU_Version field in Data_Provider table to “MUIG2”
2	If templateId = /ClinicalDocument/templateId/@root='2.16.840.1.113883.10.20.22.1.1':
2.a	Set EHR Reporting [#2508] columns 5105-5114 = “MUIG3”
2.b	Set value of MU_Version field in Data_Provider table to “MUIG3”
3	If neither templateID is present, eMaRC will not allow the document to be imported

Vital Signs

Text--DX Proc--PE [#2520]

Rule #	Mapping/Translation Rules
	Text--DX Proc--PE [#2520]
1	Height (LOINC code = ‘8302-2’)
1.a	If only one height value is provided, append date, value and units for height with tag “*height:”* to Text--DX Proc--PE
1.b	If more than one height value is provided, use value that has effective time closest to but not before diagnosis date; append date, value and units for height with tag “*height:”* to Text--DX Proc--PE
2	Weight (LOINC code = ‘29463-7’ or ‘3141-9’)
2.a	If only one weight value is provided, append date, value and units for weight with tag “*weight:”* to Text--DX Proc--PE
2.b	If more than one weight value is provided, use value that has effective time closest to but not before diagnosis date; append date, value and units for weight with tag “*weight:”* to Text--DX Proc--PE
3	BMI (LOINC code = ‘39156-5’)
3.a	If only one BMI value is provided, append date, value and units for BMI with tag “*BMI:”* to Text--DX Proc--PE
3.b	If more than one BMI value is provided, use value that has effective time closest to but not before diagnosis date; append date, value and units for BMI with tag “*BMI:”* to Text--DX Proc--PE

Planned Procedures and Medications

RX Text--Other [#2670]

Rule #	Mapping/Translation Rules
	RX Text--Other [#2670]
1	Planned Procedure Activity
1.a	If @moodCode = 'APT' or 'ARQ' or 'INT', append effectiveTime, mood code value, planned procedure code, and planned procedure display name to RX Text—Other with tag "*planned proc:".*
2	Planned Medication Activity
2.a	If @moodCode = 'PRP' or 'RQO' or 'INT', append effectiveTime, mood code value, planned medication code, planned medication display name to RX Text—Other with tag "*planned med:".*

NAACCR Text Data Items: (See above for specific rules)

NAACCR Item #	NAACCR Item Name	Mapping
2520	Text--DX Proc--PE	1. Coded Social History Section Text a. Includes Occupation, Industry and smoking history b. Smoking Status effective time, code and display name, with tag "*smoking status:*" c. Tobacco Use effective time, code and display name, with tag "*tobacco use:*" 2. Vital Signs a. Height, Weight, and BMI 3. Problem Section Text
2530	Text--DX Proc--X-ray/Scan	1. Coded Results Section, Section Text 2. Coded Results Section, Procedure Entry, Procedure Description Text 3. Coded Results, Observation Entry, Code@code with tag "*code:*", code@codeSystemName with tag "*code syst name:*" and code@displayName with tag "*code display name:"* 4. Coded Results, Observation Entry, Text with tag "*test name text:*" Note: Text will populate across these 3 data items in the specified order
2540	Text--DX Proc--Scopes	
2550	Text--DX Proc--Lab Tests	
2560	Text--DX Proc--Op	1. Procedures Section, Section Text 2. Procedure Activity Entry, Code, DisplayName and Original Text. Needs to include tags to distinguish display name from original text) Note: Text will populate across these 2 data items in the specified order
2610	RX Text--Surgery	
2570	Text--DX Proc--Path	1. Cancer Dx Section Text 2. Cancer Diagnosis Entry, Diagnostic Confirmation Original Text, with tag "*dx conf orig text:*" 3. Cancer Diagnosis Entry, Diagnostic Confirmation Display Name, with tag "*dx conf disp name:*"
2580	Text--Primary Site Title	1. Cancer Diagnosis Entry, Primary Site (targetSiteCode) Display Name 2. Cancer Diagnosis Entry, Laterality Original Text with tag "*lat orig text:*"

NAACCR Item #	NAACCR Item Name	Mapping
		3. Cancer Diagnosis Entry, Laterality Display Name with tag "*lat disp name:*"
2590	Text--Histology Title	1. Cancer Diagnosis Entry, Histologic Type Original Text with tag "*hist orig text:*" 2. Cancer Diagnosis Entry, Histologic Type Display Name with tag "*hist disp name:*" 3. Cancer Diagnosis Entry, Behavior Original Text with tag "*behav orig text:*" 4. Cancer Diagnosis Entry, Behavior Display Name with tag "*behav disp name:*"
2600	Text--Staging	1. Cancer Diagnosis Entry, TNM Clinical Stage Group Original Text with tag "*Stage Grp orig text:*" 2. Cancer Diagnosis Entry, TNM Clinical Stage Group Display Name with tag "*Stage Grp disp name:*" 3. Cancer Diagnosis Entry, TNM Clinical Stage Descriptor Original Text with tag "*Stage descript orig text:*" 4. Cancer Diagnosis Entry, TNM Clinical Stage Descriptor Display Name with tag "*Stage descript disp name:*" 5. Cancer Diagnosis Entry, TNM Edition Number Original Text with tag "*TNM Ed orig text:*" 6. Cancer Diagnosis Entry, TNM Edition Number Display Name with tag "*TNM Ed disp name:*" 7. Cancer Diagnosis Entry, TNM Clinical T, N, and M Original Text with tag "*T orig text:*", "*N orig text:*", or "*M orig text:*" 8. Cancer Diagnosis Entry, TNM Clinical T, N, and M Display Name with tag "*T disp name:*", "*N disp name:*", or "*M disp name:*"
2620	RX Text--Radiation (Beam)	Narrative Radiation Oncology Section, Section Text Note: Text will populate across these 2 data items in the specified order
2630	RX Text--Radiation Other	
2640	RX Text--Chemo	1. Medication/Medication Administered Entry, effectiveDate low with tag "*Start date:*" 2. Medication/Medication Administered Entry, Consumable, Manufactured Material with tag "*Drugname:*"
2650	RX Text--Hormone	1. Medication/Medication Administered Entry, effectiveDate low with tag "*Start date:*" 2. Medication/Medication Administered Entry, Consumable, Manufactured Material with tag "*Drugname:*"
2660	RX Text--BRM	1. Medication/Medication Administered Entry, effectiveDate low with tag "*Start date:*" 2. Medication/Medication Administered Entry, Consumable, Manufactured Material with tag "*Drugname:*"
2670	RX Text--Other	1. Plan of Treatment Section, Section Text 2. Planned Procedure Activity effectiveTime, mood code display name, planned procedure code, and planned procedure with tag "*planned proc:"* 3. Planned Medication Activity effectiveTime, mood code display name, planned medication code, planned medication display name with tag *"planned med:"*
2680	Text--Remarks	1. Physician names (see Physician and Reporting Facility Data Elements document for details) 2. Assessment Section, Section Text
2690	Text--Place of Diagnosis	Reporting organization (Custodian) Name, needs to include text that clearly indicates that this is reporting facility, not necessarily diagnosing facility ("Reporting Facility:")